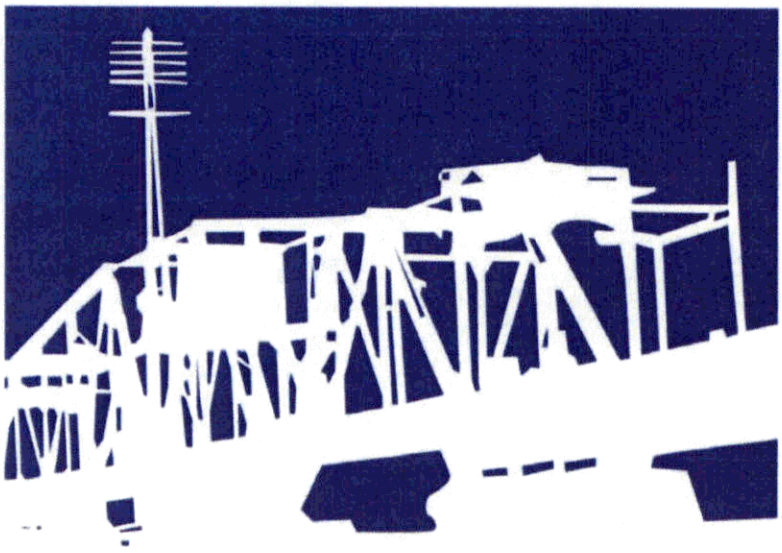
HUD
Z
177 b
ID13435

#05-2386



PORTAL BRIDGE
CAPACITY ENHANCEMENT

Portal Bridge Relocation Feasibility Study

RECEIVED
JAN 27 2010
HISTORIC PRESERVATION OFFICE

January 2010

Table of Contents

A. Introduction 1

B. General Assumptions 2

C. Bridge Removal and Demolition Methods 4

D. Baseline Alternative 5

E. Relocation Alternative 6

F. Conclusions 23

Figures

Appendix

List of Tables

Table 1. Cost Estimates for Swing Span Demolition and Relocation 3
Table 2. Cost Estimates for Swing Span Demolition and Relocation 7
Table 3. Study Area Bridge Clearances 14
Table 4. Potential Relocation Sites, Intact Swing Plan 16

List of Figures

Figures 1- 9. Swing Span Demolition Steps
Figure 10. Portal Bridge Project Site and Amtrak Right-of-Way
Figure 11. Study Area Bridge Clearances
Figure 12. Potential Swing Span Relocation Sites

A. INTRODUCTION

The National Railroad Passenger Corporation (Amtrak) and the New Jersey Transit Corporation (NJ TRANSIT) have proposed the Portal Bridge Capacity Enhancement Project to enhance the capacity and improve rail operations across the Hackensack River. The Portal Bridge is a critical infrastructure element for Amtrak and NJ TRANSIT, enabling movement between destinations east and west of the Hudson River. The existing Portal Bridge, however, poses reliability concerns, capacity constraints, and operational inflexibility. The swing span and the miter rail configuration pose maintenance difficulties and the bridge's low vertical clearance results in severe conflicts with maritime uses. The goals of the project are to enhance the capacity and improve the operation of the Portal Bridge rail crossing of the Hackensack River; to improve service reliability; to enhance passenger safety and security; to minimize conflicts with maritime traffic; and to optimize existing infrastructure and planned improvements, while minimizing impacts on the surrounding environment.

The existing Portal Bridge is a two-track moveable swing-span bridge between the City of Kearny and the City of Secaucus in Hudson County, New Jersey. It was constructed by the Pennsylvania Railroad in 1907 and began operation in 1910 as part of a larger project that also included New York's original Pennsylvania Station, twin tunnels from Tonnelle Avenue in New Jersey to 9th Avenue in Manhattan, and electric traction power and signal systems along the segment of the Northeast Corridor from Tonnelle Avenue to the former Manhattan Transfer Station in Harrison. The Portal Bridge was determined eligible for the National Register of Historic Places (NR) in 1978. It was listed on the New Jersey State Register of Historic Places (SR) in 1982.

Pursuant to the National Environmental Policy Act of 1969 (NEPA), the Federal Railroad Administration (FRA) and NJ TRANSIT prepared a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation for the project in October 2008 to analyze the potential environmental impacts of the proposed project. FRA was the lead federal agency for this EIS. The Federal Transit Administration (FTA), U.S. Environmental Protection Agency (USEPA), and the U.S. Coast Guard (USCG) were cooperating agencies for the environmental review. A Record of Decision (ROD) was published by FRA in December 2008. The ROD selected a Preferred Alternative which would include a three-track fixed northern bridge, a two-track moveable southern bridge built on a new alignment, and a duck-under structure for a grade separated crossing. In the ROD, the FRA also adopted mitigation commitments to minimize harm from the selected alternative to parklands and open space, historic resources, ecology, coastal zone management and to minimize hazardous materials and construction impacts. Subsequent to the issuance of the ROD, it was established that both the southern and northern bridges would be fixed rather than moveable. The commitments for historic resources were outlined in a Memorandum of Agreement (MOA), developed pursuant to Section 106 of the National Historic Preservation Act (NHPA). The MOA stated that the project sponsors would (1) implement ongoing consultation with NJHPO with respect to cultural resources; (2) develop and

implement a Construction Protection Plan (CPP); (3) prepare Historic American Engineering Record (HAER) documentation of the Portal Bridge and portions of the Pennsylvania Railroad Historic District; (4) develop an interpretive exhibit that would present the history of the bridge and historic district, including possible salvaged elements of these resources; (5) conduct archaeological research to avoid any insensitive disturbance to human remains in the Historic Cemeteries of Hudson County; and (6) submit an Application for Project Authorization to the New Jersey Historic Sites Council (NJHSC).

In April 2009, NJ TRANSIT submitted an Application for Project Authorization pursuant to the New Jersey Register of Historic Places Act (N.J.A.C 7:4) proposing the removal of an SR-listed property (the Portal Bridge). The New Jersey Historic Preservation Office (NJHPO) presented the Application to the NJHSC at a meeting of the NJHSC on April 16, 2009. The NJHSC issued a Resolution (Resolution 318) on April 24, 2009, which authorized the request to remove the Portal Bridge with conditions. The NJHSC charged NJ TRANSIT with "the preservation and one time relocation of the Portal Bridge [swing span] within the project area, along the Hackensack River or at another feasible location within the State of New Jersey." The NJHSC requested that NJ TRANSIT "develop a thorough feasibility study including a cost and schedule analysis for the relocation of the bridge." The Resolution stipulated that if the feasibility study results in the determination that it is not feasible to relocate the bridge's swing span, NJ TRANSIT "shall present the feasibility study to the Historic Sites Council for review and recommendation to the Department. In that case, NJ TRANSIT shall also present suggestions for mitigation which is commensurate with the loss of the resource."

In keeping with the stipulations of the conditional authorization, this Feasibility Study identifies alternatives for the relocation and preservation of the Portal Bridge swing span and evaluates the feasibility of these alternatives in terms of constructability, cost, public safety, and public accessibility.

B. GENERAL ASSUMPTIONS

The study area for the relocation of the swing span was limited to the Passaic and Hackensack rivers, Newark Bay, and New York Harbor in the immediate vicinity of the Bergen Neck peninsula. The limit of the study area was determined by considerations of navigability restrictions, cost of relocation, historic context, and public safety, among others.

NAVIGABILITY RESTRICTIONS

It is assumed that standard deck barges would be used to transport the intact swing span or each arm of the swing span separately. The existing Portal Bridge swing span is approximately 300 feet long, 30 feet wide, and 46.5 feet high, and weighs a total of 750 tons. The dimensions of a standard barge are assumed to be approximately 200 feet long, 35 feet wide, and 12 feet high with a 4-foot draft, which places the deck of the barge approximately 8 feet above the surface of the water. Hardwood timber mats would be required as a cushion between the deck of the barge and the span. Therefore, to relocate the intact swing span or a portion thereof, a minimum horizontal clearance of approximately 39 feet (35 feet with a two-foot clearance on each side) and a minimal vertical clearance of approximately 57 feet (46.5 feet for the height of the span, 8 feet for the height of the barge above water, one foot for the timber matting, and 1.5 feet of margin) would be required. However, it is likely that navigation standards for both rivers and Newark Bay may require larger vertical and horizontal clearances.

Therefore, for alternatives which evaluate the relocation of the intact swing span or swing span arms, only sites downstream of the current project site on the Hackensack River would be considered. This is due to the fact that, in the current construction schedule, the northern replacement bridge would be constructed prior to the demolition of the existing bridge in order to maintain Amtrak and NJ TRANSIT rail traffic along the Northeast Corridor (NEC). The northern replacement bridge would have a clearance of 50 feet above mean high water which is not sufficient for a barge transporting an intact span or a span arm. It is possible, that changes in project funding, or other circumstances, would require a change in construction phasing where the southern bridge is completed first. In that case, the same clearance limitations apply and an intact bridge could not be transported south due to the limitations imposed by the new southern bridge. Furthermore, the existing bridge would have to remain in place for NEC service until the northern bridge is constructed and could not be removed from the project site intact.

Similarly, because an intact swing span, or one disassembled into a limited number of parts, would be too large to be transported by truck over public roads, only waterfront locations, accessible by barge, were considered (see Alternatives C, D, and E).

Table 1

Cost estimates for swing span demolition and relocation

	Description	Cost Estimate ($)
Baseline demolition	Swing span removed and floated to bulkhead for demolition. Includes demolition by cutting truss members [1]	2,500,000
Demolition through rivet removal	Rivets are removed from each joint for assembly at the relocation site	1,000,000
Lead Abatement	Includes lead abatement of entire swing span and coat of paint	300,000
Foundation Construction	Static bridge (no public access) – shallow foundation	100,000
	Static bridge (no public access) – deep foundation in wetland or contaminated soil	600,000
	Static Bridge (w/ public access) - shallow foundation	400,000
	Static bridge (w/ public access) – deep foundation in wetland or contaminated soil	900,000
	Functional bridge (w/ public access) – shallow foundation	1,000,000
	Functional bridge (w/ public access) – deep foundation in wetland or contaminated soil	1,500,000
Relocation cost	To move from bulkhead (baseline demolition) to selected relocation site by barge. Span will require 2 tugboats and 2 barges (each at 20,000/day).	40,000/day + 50,000 for the first 10 miles + 2,500 per each additional mile
	To move from bulkhead (baseline demolition) to selected relocation site by truck. Max load of 30 tons per truck is assumed; 25 trucks would be required to move 750 ton span (at $5/mile)	125/mile + 50,000 for loading/unloading
Demobilization	After delivery to relocation site, the span would be removed from barge. Depending on inland distance or ground conditions, a temporary sliding track with rollers or horizontal jacking could be used, or a self propelled modular transporter (SPMT)	100,000 to 500,000, depending on method chosen
Reassembly and Installation	If disassembled into truss members, the span would have to be reassembled with welds and bolts	1,000,000

Notes: 1. Includes: Mobilization and demobilization; "Pre" and "post" surveys of the river bottom and verification of removal limits; Movement of span to demolition site (within 1 mile of project site); Dismantling truss with light torches; Marine support services (including tug boats); Removal of pivot pier (drilled and blasted, rubble removed); Disposal of creosote ties and timber fender system; Disposal of concrete debris. These steps are part of a continuous demolition sequence and while they are not technically required for the relocation of the span, are priced in as part of baseline demolition.

Sources: HNTB, 2009

COSTS

The cost estimates for demolition and relocation provided in Table 1 will be used to assess the feasibility of the relocation alternatives presented below. These costs are rough estimates, compiled for the purposes of determining the feasibility of relocation to each site, and would be finalized if a site is found.

HISTORIC PRESERVATION AND PUBLIC ACCESSIBILITY

In keeping with the stipulations of the NJHSC Resolution, the *Secretary of Interior's Standards for Rehabilitation of Historic Properties* are considered the appropriate historic preservation evaluation standard for this undertaking. These standards recommend that a historic property remain in its historic use, wherever possible. Retention of distinctive features that contribute to the character of a historic property, including materials, finishes, spatial relationships, and examples of construction techniques or craftsmanship, is encouraged. Changes that create "a false sense of historical development," such as the addition of conjectural features or elements salvaged from other locations, is discouraged. Where possible, deteriorated features should be repaired rather than replaced, and any chemical or physical treatments should minimize damage to historic fabric. New additions or adjacent construction should be reversible and non-destructive and should be designed to be compatible with but differentiated from the historic property.

It is assumed that public accessibility and/or visibility to the relocated Portal Bridge swing span is not a requirement; however, maximizing accessibility and/or visibility is considered beneficial to the extent that public safety is not compromised.

PUBLIC SAFETY

The risk liability of the swing span relocation increases dramatically with increasing distance from the project site, which in turn increases the cost of relocation. While the intact swing span or arms may be stabilized on a barge for transport via the Hackensack or Passaic rivers for relatively short distances, the risk involved in taking the bridge into open water along the coast or up the Hudson River makes this option cost prohibitive.

OTHER ASSUMPTIONS

The presence of lead on the bridge is assumed for the purposes of this study. Complete lead abatement of the removed Portal Bridge swing span would be required if the span is placed in a publicly accessible location. Requirements for lead abatement vary by alternative and are described in further detail below. It is assumed that lead abatement in place, over the Hackensack River, would be cost-prohibitive and would create adverse water quality impacts. Therefore, if the bridge is demolished and sold for scrap, the buyer would be responsible for lead abatement, at no additional cost to the project.

C. BRIDGE REMOVAL AND DEMOLITION METHODS

The removal of the existing Portal Bridge swing span would begin after the northern replacement bridge is constructed and train traffic is diverted. (Figure 1) The removal of the swing span may be accomplished in one of three ways:

METHOD 1: REMOVAL OF AN INTACT SWING SPAN

1. The existing catenary supports at both ends of the existing swing span would be removed. Barges would be positioned under each side of the center pivot and secured in place. Temporary jacking towers would be installed on the deck barge (Figure 2).
2. The swing span would be rotated into position, perpendicular to the two barges shown on Figure 3. At high tide, temporary jacking towers would be secured to the underside of the swing span. The span would be disconnected from the center pivot, jacked to clear existing obstructions, and removed (Figure 4).
3. The swing span would be floated via the two barges and secured to the western bulkhead (Figure 5). From here, the bridge could be dismantled by torch cutting the truss members (with spot lead abatement done on portions of the bridge where the trusses are cut) or transferred to one barge for movement to a relocation site.

This demolition method would be used under Alternatives B and C, presented below.

METHOD 2: REMOVAL OF SWING SPAN ARMS

1. The upper and lower chords in the center pier area of the span would be cut. One barge would be positioned under one arm of the swing span (Figure 6).
2. A barge crane would lift the detached arm and place it on the deck of the barge (Figure 7). The barge, pulled by a tugboat would move away from the center pivot and would float the swing span arm to the western bulkhead for demolition. The process is repeated with the other swing span arm (Figures 8 and 9). From here, the bridge could be dismantled by torch cutting the truss members (with spot lead abatement done on portions of the bridge where the trusses are cut) or transferred to one barge for movement to a relocation site.

This demolition method would be used for Alternatives D and E.

METHOD 3: SWING SPAN DISMANTLED INTO TRUSS MEMBERS

1. The swing span would be removed to the bulkhead via either of the two methods described above.
2. Bridge truss members would be spot de-leaded and cut with a torch. The span can also potentially be demolished by removing each rivet holding together the truss members.
3. From here, pieces may be piled onto barges to be floated from the project site via nearby waterways or be transferred to trucks.

This demolition method would be used for Alternative F and the Baseline Alternative.

D. BASELINE ALTERNATIVE

The Baseline Alternative is defined as the removal of the swing span to the western bulkhead for demolition (and does not include relocation or preservation of the swing span or salvage of historic elements). The Baseline Alternative would employ demolition Method 3, as presented above. Under the Baseline Alternative, the resulting bridge components would be scrapped or recycled. Although the Baseline Alternative does not include costs for salvage and/or preservation of historic components of the Portal Bridge, it should be noted that pursuant to the MOA, a Salvage and Marketing Plan would be prepared in order to fulfill the project's obligations under Section 106 of NHPA. As described in the MOA, NJ TRANSIT would endeavor the "Salvage of elements of the Portal Bridge and/or Pennsylvania Railroad Historic

District, such as truss components, tracks, etc. NJ TRANSIT and Amtrak will develop a list of potentially salvageable items for review and comment by NJHPO," and will develop a marketing plan for these items in coordination with NJHPO. If possible, salvaged historic elements would be included in an interpretive exhibit devoted to the history of the Pennsylvania Railroad and Portal Bridge in a park, greenway or public space, which would also be developed pursuant to the MOA and as mitigation under Section 106.

The projected cost of the Baseline Alternative would be one of the criteria used to evaluate the feasibility of relocation alternatives. Plans for the demolition of Portal Bridge include a budget of $3.6 million for removal of the swing span, approach spans, and piers. Of that, $2.5 million is allocated to the removal of the swing span specifically and will be used as the basis for comparison. A 10 to 15 percent contingency cost would be added to the cost of this and all relocation alternatives due to the early stage of the project and to account for unexpected cost.

E. RELOCATION ALTERNATIVES

The following alternatives for relocating and preserving the Portal Bridge swing span have been identified:

- **Alternative A:** Move the entire swing span to the Amtrak right-of-way (ROW)
- **Alternative B:** Move the entire swing span via barge to waterfront location in immediate vicinity
- **Alternative C:** Move the entire swing span via barge to waterfront location on Passaic or lower Hackensack Rivers or in Newark Bay
- **Alternative D:** Partially dismantle the swing span on adjacent Hackensack River bulkhead and move by barge to a waterfront location in northern New Jersey to be reassembled for a non-functional purpose
- **Alternative E:** Partially dismantle the swing span on bulkhead and move by barge to a waterfront location in northern New Jersey to be reassembled for a functional purpose
- **Alternative F:** Dismantle swing span and move by truck to a location in New Jersey for reassembly

These alternatives are described below, followed by an analysis of the costs, advantages, and disadvantages of each alternative.

ALTERNATIVE A: MOVE ENTIRE SWING SPAN TO AMTRAK RIGHT-OF-WAY

Under this alternative, the swing span would be disconnected from the central pivot in the closed position. Pipe piles, spaced approximately 25 feet apart, would be driven into the river bottom. One temporary track, attached to steel beams supported by the pipe piles, would be built on each side of the approach spans. The swing bridge would then be slid on the temporary track to the embankment and placed parallel to the existing alignment and the replacement bridges, within the Amtrak right-of-way.

COSTS

Based on current estimates, this option would be slightly less costly than the Baseline Alternative (see Table 2). Moving the swing span to the Amtrak ROW would cost approximately $2,000,000. This Alternative would likely require the lead abatement of the swing span, at an additional cost of approximately $300,000 and the construction of a new foundation at approximately $500,000.

Table 2

Cost estimates for swing span demolition and relocation

Description	Cost Estimate ($)
Baseline Alternative	$2,500,000
Alternative A: Move Entire Swing Span to Amtrak Right-of-Way	$2,800,000
Alternative B: Move Swing Span to Waterfront Location in Immediate Vicinity	$3,500,000- over 50 million*
Alternative C: Move Entire Swing Span via Barge to Waterfront Location on Passaic or Lower Hackensack Rivers of Newark Bay	$4,890,000
Alternative D: Partially Dismantle Swing Span and Move by Barge to Northern NJ Waterfront Location for Non-Functional Use	$4,290,000
Alternative E: Partially Dismantle Swing Span and Move by Barge to Northern NJ Waterfront Location for Functional Use	$4,890,000
Alternative F: Dismantle Swing Span and Move by Truck to a Location in NJ	$6,400,000
Notes: Range depends on location and remediation obligations **Sources:** HNTB, 2009	

ADVANTAGES

- **Property Acquisition:** This option does not require the acquisition of any additional property and does not require Amtrak to secure a site for bridge relocation.
- **Historic Integrity:** Among the relocation alternatives, this option would maximize the retention of the Portal Bridge swing span's historic integrity by (1) allowing the swing span to remain physically intact, and (2) relocating the swing span to a location immediately adjacent to its historic location, thereby retaining to a large extent, its historic setting.
- **Public Accessibility:** Under this alternative, the Portal Bridge swing span would be visible to passengers on Northeast Corridor trains and boaters on the Hackensack River. It would also likely be visible from the New Jersey Turnpike and from the east side of the Hackensack River, including Laurel Hill Park.
- **Public Safety:** While this alternative would allow the swing span to be visible to the public from several vantage points, it would be physically inaccessible to the public. This is considered a public safety benefit, since health and safety hazards associated with the structure would largely be avoided.

DISADVANTAGES

- **Interference with future operations:** The placement of the swing span within the Amtrak ROW would interfere with Amtrak's plans to expand rail operations on the Northeast Corridor in the future. The Northeast Corridor is one of ten rail corridors in the country that has been identified by the American Recovery and Reinvestment Act of 2009 for high speed rail development funding.
- **Obstruction to maintenance:** The placement of the bridge within the Amtrak ROW would present an obstruction to railroad personnel working in the area or to the storage of auxiliary equipment or materials.

- **High-powered transmission lines:** 138kV transmission lines which supply power to the Northeast Corridor in this section will remain in the Amtrak ROW. There is a risk of damaging the lines during the relocation and maintenance of the span.

FEASIBILITY

The use of the Amtrak ROW would conflict with Amtrak's plans to expand rail infrastructure in connection with High Speed Rail along the Northeast Corridor between Boston and New York. The Northeast Corridor Improvement Project (NECIP) will aim to reduce trip times between New York and Washington and between New York and Boston as part of Amtrak's high-speed Acela Express service. The goal will be to reduce Acela Express service between New York and Washington from 2 hours and 52 minutes to 2 hours 15 minutes. Currently, Northeast Corridor Tracks 2 and 3 cross the Hackensack River on the Portal Bridge. As part of the Portal Bridge Project, Track 4, which currently terminates west of the Hackensack River, would be extended across the Hackensack River. As part of this NECIP Project, along with other improvements throughout the Corridor, Amtrak proposes to extend Track 1, which also currently terminates west of the Hackensack River, over the Hackensack River within the Amtrak ROW. Therefore, an additional bridge and/or trackage would likely be constructed in the Amtrak ROW on either side of the Hackensack River as part of the NECIP Project. The placement of the Portal Bridge swing span in the ROW, therefore, would interfere with plans for future bridges and trackage in the location, as well as continued maintenance of existing track and structures.

Nick Marton of NJ TRANSIT contacted Martin Mack of Amtrak on November 20, 2009 regarding the potential for relocating the Portal Bridge swing span to the Amtrak embankment. Martin Mack replied that Amtrak would not be willing to maintain the swing span on the embankment due to the operational and safety considerations described above. Therefore, this alternative was eliminated from further consideration (Figure 10).

ALTERNATIVE B: MOVE ENTIRE SWING SPAN VIA BARGE TO WATERFRONT LOCATION IN IMMEDIATE VICINITY

This Alternative would employ Method 1 for demolition, however, the span would be floated directly to one of the potential relocation sites described below, and not to the bulkhead. The relocation sites under this alternative are located within a mile of the project site; beyond that, the span would have to be lowered to the deck of a barge for transport to increase stability.

Several sites in the vicinity of the study area may be considered for the relocation of the Portal Bridge swing span under this Alternative:

DIAMOND SHAMROCK

The Diamond Shamrock property is located immediately south of the existing Northeast Corridor railroad embankment on the west side of the Hackensack River in Kearny. The Occidental Chemical Corporation (successor to the Diamond Shamrock Corporation) owns the site and remediation is being overseen by Tierra Solutions under jurisdiction of New Jersey Department of Environmental Protection (NJDEP). Diamond Shamrock consists of two contiguous parcels within Block 287: Lot 47, a 5.5-acre waterfront parcel; and Lot 46, a 20.5-acre parcel immediately west of Lot 47. The property was first developed in 1916 by the Martin Dennis Company, which produced sodium bichromate and potassium dichromate, chemicals used in the preparation of 'Tanolin,' a leather tanning agent. The site remained in industrial use until 1976 and most of the buildings on the site were demolished in 1978. The parcels are now

largely vacant. The property is listed as a Brownfield site. Diamond Shamrock is part of the Hudson County Chromate Chemical Production Waste Sites Project investigation of sites that have been affected by chromate waste material, also known as chromate ore processing residue (COPR), and is designated as COPR Site 113. The chromium contamination at the site is being investigated and remediated under an Administrative Consent Order (ACO) signed in April 1991 between the NJDEP, the Occidental Chemical Corporation, and Chemical Land Holdings. The site is covered with 8 to 10 feet of fill comprised of chromium-contaminated slag and silty sand. It is expected that remediation of the Diamond Shamrock property will be completed by the year 2030. NJMC's Land Use Plan identifies this site as within the area planned for intermodal or industrial uses.

Costs

The relocation of the span on a portion of this site would require baseline demolition ($2,500,000), demobilization (between $100,000 and $500,000), lead abatement ($300,000) and a foundation ($600,000 foundation for a static bridge on contaminated soil). Therefore, the cost of relocating to this site may total approximately $3,500,000 to $3,900,000, not including remediation costs.

If remediation efforts (discussed further under "Site Contamination," below), could be limited to the immediate future location of the swing span, remediation costs are estimated at $2,057,000. Under this best-case scenario, the relocation of the swing span and remediation of the Standard Chlorine property would cost a total of approximately $6 million dollars at a minimum. More likely, remediation of the entire Diamond Shamrock site would be required in order to relocate the swing span to the property. If the proposed project were to accept the full responsibility for site remediation activities, costs range in the tens of millions of dollars.

Advantages

- **Property Acquisition:** A portion of the site will already be acquired (in fee or in easement) for the Portal Bridge Capacity Enhancement Project for construction of a new embankment and related infrastructure.
- **Historic Integrity:** This option would allow for the retention of aspects of the Portal Bridge swing span's historic integrity by (1) allowing the swing span to remain physically intact, and (2) relocating the swing span to a location immediately adjacent to its historic location, thereby retaining to a large extent, its historic setting.

Disadvantages

- **Site contamination:** This option would require that a portion of the contaminated site is acquired or allocated for the relocation of the span and remediated before the span is installed. This remediation on a portion of the site would have to be completed on a fast track basis, at a large cost to the project. Overall, due to the significant contamination on the Diamond Shamrock site, remedial activities will be conducted on the majority of the site. The remedial activities may include excavation of contaminated material, installation of barrier walls, and the installation of groundwater pumps and treatment systems. Relocating the span to the Diamond Shamrock site may hinder effective remediation of the property. A span of this size would present accessibility issues and would be difficult to place without interfering with the location of groundwater wells or other remedial controls. In addition, the added weight of the span (750 tons) could potentially alter the subsurface conditions on the site. This could negatively impact the meadow mat, which acts as a confining layer, by

reducing its permeability. While the impact might be minor, it could alter the confining layer's natural properties and reduce the effectiveness of groundwater treatment.

- **Public Access:** It is expected that the remediation of the Diamond Shamrock property will be completed in 2030. Until this time, public access to the site would not be possible. Therefore, the swing span would not be accessible or visible to the public except for possible limited views from the water or the opposite shore of the Hackensack River and transportation corridors such as the Northeast Corridor.

Feasibility

Since this chromium contaminated site will be undergoing remediation for a number of years, it is likely that a relocated swing span on a permanent foundation would interfere with remediation efforts. Therefore, this option would not be feasible.

STANDARD CHLORINE

The 25-acre Standard Chlorine property is located on Block 287, Lot 51, immediately south of the Diamond Shamrock property on the west side of the Hackensack River and east of the Belleville Turnpike in Kearny. It contains multiple vacant industrial buildings of varying heights and conditions, largely constructed in the early to mid-20th century. The property was historically owned by the White Tar Products Company and the Edison Battery Company. A portion of the property was determined State and National Register of Historic Places-eligible for its Art Deco-style industrial buildings and association with Thomas Edison. The property historically produced naphthalene products, creosote disinfectants, mothballs (dichlorobenzene), drain cleaner products, lead acid batteries, raw rubber parts, and dye carriers. NJDEP identified several areas of concern at the site including on-site lagoons, COPR, soil contaminated with dioxins, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs), contaminated concrete, groundwater contamination (including dense non-aqueous phase liquid [DNAPL]), contaminated drainage ditch surface water, and migration of contamination to the Hackensack River surface water and sediments. Remediation is expected to include installation of a hydraulic barrier along the Hackensack River and around the perimeter of Diamond Shamrock and Standard Chlorine to prevent potential migration of DNAPL and impacted groundwater from the two sites to the river. Standard Chlorine is also part of the Hudson County Chromate Chemical Production Waste Sites Project and is known as COPR Site 116. In a rulemaking published in the *Federal Register* on September 19, 2007, the Standard Chlorine site was added to the Superfund program's National Priorities List (NPL). It is not currently clear to what extent remediation of Standard Chlorine will be coordinated with that of Diamond Shamrock. Remediation will likely include construction of a perimeter hydraulic barrier, a groundwater recovery and treatment system, lagoon cleanup, sediment cleanup, surface cover, and stormwater management. The Standard Chlorine Superfund NPL site remediation is expected to be completed by 2015. There are currently no specific development plans for this site; however, NJMC's Land Use Plan identifies the sites as within the area planned for intermodal or industrial uses.

Costs

The relocation of the span to a portion of this site would require baseline demolition ($2,500,000), demobilization (between $100,000 and $500,000), lead abatement ($300,000) and a foundation ($600,000 foundation for a static bridge on contaminated soil). Therefore, the cost of relocating to this site may total approximately $3,500,000 to $3,900,000.

Advantages

- **Historic Integrity:** This option would allow for the retention of aspects of the Portal Bridge swing span's historic integrity by (1) allowing the swing span to remain physically intact, and (2) relocating the swing span to a location immediately adjacent to its historic location, thereby retaining to a large extent, its historic setting.

Disadvantages

- **Site contamination:** This option would require that a portion of this contaminated site, designated on Superfund's NPL, be acquired for the relocation of the bridge and remediated before the span is installed. This remediation on a portion of the site would have to be completed on a fast track basis, at a large cost to the project. While technically possible, this option would be cost prohibitive and imprudent. Locating the span on the Standard Chlorine site would be difficult due to significant contamination throughout the majority of the site, in addition to the presence of existing buildings and contaminated lagoons. The remedial activities may include excavation of contaminated material, installation of barrier walls, and the installation of groundwater pumps and treatment systems. Relocating the span to the Standard Chlorine site may hinder effective remediation of the property. A span of this size would present accessibility issues and would be difficult to place without interfering with the location of groundwater wells or other remedial controls. In addition, the added weight of the span (750 tons) could potentially alter subsurface conditions within the site. This could negatively impact the meadow mat, which acts as a confining layer, by reducing its permeability. While the impact might be minor, it could alter the confining layer's natural properties and would reduce the effectiveness of groundwater treatment.
- **Ownership:** The site is owned by the Standard Chlorine Chemical Company which would have to be compensated to accept and install the bridge on the property. Since placing the span on the site would interfere with remediation efforts, Standard Chlorine would require NJ TRANSIT to take ownership of the portion of the site where the span would be located.
- **Public Access:** It is expected that the remediation of the Standard Chlorine Chemical Company property will be completed in 2015. Until this time, public access to the site would not be possible. Furthermore, deed restrictions post remediation may further limit public access. Therefore, the swing span would not be accessible or visible to the public except for possible limited views from the water or the opposite shore of the Hackensack River.

Feasibility

Since this Superfund-designated site will be undergoing remediation for a number of years, it is likely that a relocated swing span on a permanent foundation would interfere with remediation efforts. Therefore, this option would not be feasible.

KOPPERS COKE

Immediately south of the Standard Chlorine property on the west side of the Hackensack River in Kearny is the 155-acre property now known as Koppers Coke or Koppers Seaboard. Koppers Gas & Coke Company operated a coke plant and coal tar processing facility on this site from 1917 to 1971. In March 1988, the Hudson County Improvement Authority (HCIA) purchased the site from Beazer East, the successor to the Koppers Company. The property is now vacant. Existing contamination includes: dense and light non-aqueous phase liquids (DNAPL and LNAPL); impacted soils (primarily VOCs in the former coke and light oil refining areas and

PAHs in the former coal tar processing areas); and surface disposal of process and waste materials (coal tar waste, chromium-contaminated fill, and oil deposit areas). A remedial action work plan (RAWP) was submitted to NJDEP in 1997 and approved in 1998. Additional remedial actions have subsequently been proposed and approved. Proposed remedial actions include placement of a cover of processed dredged material (PDM), a subsurface barrier system along the Hackensack River, and recovery of DNAPL. Portions of the RAWP have been implemented, including the installation and operation of a DNAPL recovery system.

Approximately 82 acres of the site in the western and central potion of the site will be remediated and used for the Access to the Region's Core (ARC) project for the construction of the proposed Kearny Rail Yard. The eastern portion of the site is proposed to be used as a site to process dredged soils and will contain additional DNAPL recovery wells. There are preliminary plans for waterfront development (a warehouse and freight distribution center) on this portion of the site.

Under the Portal Bridge Capacity Enhancement Project, the southeastern portion of the site may be used as a construction staging area for the assembly of replacement bridge components. Therefore, the Baseline Alternative also proposes to use the site for the demolition of the removed swing span.

Costs

The relocation of the span on a portion of this site would require baseline demolition ($2,500,000), demobilization (between $100,000 and $500,000), lead abatement ($300,000) and a foundation ($600,000 foundation for a static bridge on contaminated soil). Therefore, the cost of relocating to this site may total approximately $3,500,000 to $3,900,000.

Advantages

- **Historic Integrity:** This option would allow for the retention of aspects of the Portal Bridge swing span's historic integrity by (1) allowing the swing span to remain physically intact, and (2) relocating the swing span to a location immediately adjacent to its historic location, thereby retaining to a large extent, its historic setting.

Disadvantages

- **Conflicts with Remediation Efforts:** Current remedial activities at the site include the installation of capillary breaks over the hexavalent chromium contaminated fill material. The site will also undergo additional remedial activities in the future. As described above, proposed remedial actions include placement of a cover of PDM, a subsurface barrier system along the Hackensack River, recovery of NAPL, and solidification/consolidation of hazardous waste piles. Since these remedial actions are anticipated to take several years, they may not be complete prior to bridge demolition. The swing span relocated to the site may introduce a physical obstruction that would likely interfere with the planned operations for remediation, including the placement of surcharge material. In addition, groundwater modeling previously developed for the Kopper's Coke site indicates that the placement of the surcharge would affect the groundwater flow beneath the site. It is likely that the placement of the 750 ton span might also impact the groundwater flow. This may cause potential problems for the design of the remedial systems including the wick drains, barrier walls, and NAPL recovery system.

- **Public Access:** It is expected that the remediation of portions of the Kopper's Coke Site will not be completed until at least 2016. Until this time, public access to the site would not be possible. In addition, it is also unlikely that public access would be allowed in or near an operating rail yard such as Kearny Yard. Therefore, the swing span would not be accessible or visible to the public except for possible limited views from the water or the opposite shore of the Hackensack River.

Feasibility

Since the site will be used for the demolition of the swing span under the Baseline Alternative, the swing span may be installed here for the short term. However, since remediation on the site will continue and the Hudson County Improvement Authority is moving forward with plans for the site, it is likely that the relocated span would eventually interfere with site development. Therefore, this option would not be feasible.

RIVERBEND WETLAND PRESERVE

The Riverbend Wetland Preserve, part of Hudson County's Laurel Hill Park, is located on the east side of the Hackensack River, immediately south of the existing Portal Bridge in Secaucus. This protected wetland area is not currently accessible by the public. It is characterized chiefly by undeveloped low-lying marshes. It contains a dirt roadway and is transected by the Northeast Corridor.

Costs

The relocation of the span on a portion of this site would require baseline demolition ($2,500,000), demobilization (between $100,000 and $500,000), lead abatement ($300,000) and a foundation ($600,000 foundation for a static bridge in wetland). Therefore, the cost of relocating to this site may total approximately $3,500,000 to $3,900,000.

Advantages

- **Historic Integrity:** This option would allow for the retention of aspects of the Portal Bridge swing span's historic integrity by (1) allowing the swing span to remain physically intact, and (2) relocating the swing span to a location immediately adjacent to its historic location, thereby retaining to a large extent, its historic setting.

Disadvantages

- **Extensive structural supports:** The swing span would have to be placed on an extensive substructure with a deep foundation.
- **Wetland Impacts:** This option would result in substantial impacts to wetland resources, both from the physical footprint of the bridge and supports. Extensive permitting requirements, including a United States Army Corp of Engineers (USACE) Section 404 permit, would apply. An applicant for a Section 404 permit, seeking to construct any project involving the discharge of dredged or fill material into US waters, must conduct an Alternatives Analysis to demonstrate to USACE that the proposed action is the least environmentally damaging practicable alternative to achieve the project's purpose.
- **Public Access:** The Riverbend Wetland Preserve is currently not accessible to the public. Therefore, public access and visibility to the swing span would be limited to views from the water and transportation corridors such as the Northeast Corridor.

Feasibility

Relocating the bridge on this site would create significant adverse impacts to wetlands. It is unlikely that a Section 404 permit and other wetland related permits would be granted in this case. Therefore, this option would not be feasible.

ALTERNATIVE C: MOVE ENTIRE SWING SPAN VIA BARGE TO WATERFRONT LOCATION ON PASSAIC OR LOWER HACKENSACK RIVERS OR IN NEWARK BAY

This Alternative would employ Method 1 for demolition and would require that the swing span be transferred to a deck barge in order to be floated from the project site. As mentioned in Section C, "General Assumptions," a minimum horizontal clearance of 39 feet and a minimal vertical clearance of approximately 57 feet would be required to transport the intact swing span under other bridge spans. The new northern bridge, which would be completed before the swing span is removed, would have a fixed 50-foot clearance. Therefore, locations on the Hackensack River upstream of the project site have automatically been eliminated from consideration under this Alternative.

METHODOLOGY

In order to determine a possible relocation study area, clearances on the lower Hackensack and Passaic Rivers, Newark Bay, and Arthur Kill were examined to determine obstructions that would prevent the navigation of a barge carrying an intact swing span. The results are presented in Table 3 and are shown on Figure 11.

Table 3

Study Area Bridge Clearances

Map ID	Bridge Name	Location (Miles from Mouth of River)	Bridge Type	Vertical Clearance		Horizontal Clearance
				Open	Closed	
Hackensack River						
1	Lincoln Highway	1.9	Lift Auto Bridge	135'	35'	200'
2	Pulaski Skyway	2.4	Fixed Auto Bridge	135'	300'	300'
3	PATH	3.0	Lift Rail Bridge	135'	40'	168'
4	Hack Freight	3.2	Lift Rail Bridge	135'	11'	158'
5	Wittpenn	3.2	Lift Auto Bridge	135'	25'	158'
6	Lower Hack	3.4	Lift Rail Bridge	135'	40'	150'
7	Existing Portal Bridge	5.0	Swing Rail Bridge	>135'	23'	99'
8	New Jersey Turnpike	5.3	Fixed Auto Bridge	103'		259'
9	DB Swing	5.4	Swing Rail Bridge	>135'	7'	99'
10	Upper Hack	6.9	Lift Rail Bridge	110'	8'	127'
11	HX Draw	7.7	Bascule Rail Bridge	>135'	4'	101'
12	Rte. 3 EB	8.8	Fixed Auto Bridge	50'		148'
13	Rte. 3 WB	8.9	Fixed Auto Bridge	50'		150'
14	New Jersey Turnpike	11.8	Fixed Auto Bridge	49'		165'
15	Rte. 46	14.1	Bascule Auto Bridge	>135'	35'	150'
16	Rte. I-80	15.2	Fixed Auto Bridge	51'		148'
17	Court St.	16.2	Swing Auto Bridge	>135'	3'	56'

Table 3 (cont'd)
Study Area Bridge Clearances

Map ID	Bridge Name	Location (Miles from Mouth of River)	Bridge Type	Vertical Clearance		Horizontal Clearance
				Open	Closed	
Passaic River						
18	Central Railroad of NJ (not in use)	1.2	Lift Railroad Bridge	n/a		145
19	Lincoln Highway Bridge (Route 1 & 9)	1.8	Lift Auto Bridge	135'	40'	300'
20	Pulaski Skyway	2.0	Fixed Auto Bridge	135'		520'
21	Point-No-Point	2.6	Swing Railroad Bridge	>135'	16'	103/104'
22	New Jersey Turnpike	2.7	Fixed Auto Bridge	100'		319'
23	Jackson Street	4.6	Swing Auto Bridge	>135'	18'	72'
24	Dock Street	5.0	Lift Railroad Bridge	138'	24'	200'
25	Bridge Street	5.6	Swing Bridge	>135'	7'	80'
26	NJT Morristown Line	5.8	Swing Railroad Bridge	>135'	15'	77'
27	Route 280	5.8	Lift Bridge	135'	35'	200'
28	Clay Street	6.0	Swing Bridge	>135'	8'	75'
29	Abandoned Railroad Bridge (always open)	6.1	Bascule	>135'	7'	126'
30	West Arlington	8.0	Swing Railroad Bridge	>135'	36'	45'/48'
			Fixed Railroad Bridge	35'		70'
31	Rutgers Street	8.9	Lift Auto Bridge	142'		n/a
32	Avondale	10.7	Swing Auto Bridge	>135'	7'	85'
33	NJT Mainline	11.7	Swing Railroad Bridge	>135'	26'	47'
34	Route 3	11.8	Bascule Auto Bridge	>135'	35'	125'
35	Union Avenue	13.2	Fixed Auto Bridge	15'		60'
36	Gregory Avenue	14.0	Fixed Auto Bridge	12'		71'/90'
37	Second Street	14.7	Fixed Auto Bridge	5'		100'
38	West Eighth Street	15.3	Fixed Auto Bridge	5'		70'
Newark Bay						
39	Newark Bay Rail (no longer in use)	n/a	Lift	135'	35'	300'
40	Newark Bay (NJ Turnpike)	n/a	Fixed Auto Bridge	135'		550'
Arthur Kill						
41	Bayonne	n/a	Fixed Auto Bridge	135'	35'	300'

Sources: USCG, *Passaic and Hackensack Rivers Navigation Chart*, May 1980.
http://www.passaicriverboatclub.net/index.php?option=com_content&task=view&id=10&Itemid=25

Based on the bridge clearances on the Hackensack River and the minimum clearance requirements presented above, an intact span could be transported downstream and out into Newark Bay with no restrictions. On the Passaic River, an intact swing span on a barge would be able to travel as far as West Arlington Bridge, located between Kearny and Belleville, approximately eight miles from the mouth of the river. No clearance restrictions are present in Newark Bay or Arthur Kill, however, in consideration to public safety and cost, the relocation of the span should be limited to the Bergen Neck peninsula.

A preliminary review of potential relocation sites, using aerial photographs and tax lot information was conducted, taking into account the following factors:

- the space required to relocate an intact 300-foot span, approximately ¼ of an acre
- waterfront location for accessibility by barge
- historic context
- visibility

- public safety.

The list of potential relocation sites under this Alternative is presented in Table 4 below.

Table 4
Potential Relocation Sites, intact swing span

Alt #	Town	Site name	Owner	Block	Lot	Feasibility
Hackensack River						
C1	Jersey City	Vacant	Holy Name Cemetery, located to the southeast of this site.	1639	2	no
C2	Jersey City	Lincoln Park	Hudson County	1702	1	yes
C3	Jersey City	Vacant	City of Jersey City	1751	12	yes
Newark Bay						
C4	Bayonne	North 40 Park	Hudson County	-	-	yes
C5	Bayonne	A&P site	-	-	-	yes
C6	Bayonne	The Texaco Site	Chevron-Texaco (managed by Bayonne Local Redevelopment Authority)	-	-	yes
C7	Kearny	BASF Site	BASF Corporation (Badische Corp)	288	1,2,3	no
C8	Newark	Former Motiva Site	Motiva Enterprises LLC	5074	9.01	no
C9	Newark	Vacant	Passaic Valley Sewerage Commission.	5066	12.01	no
Passaic River						
C10	Newark	Vacant	PSE&G Company	5000	50/50.01	no
C11	Newark	Incinerator Site	Port Authority of New York/New Jersey	5001	92	no
C12	Newark	Vacant	Sherwin Williams Company	2437	8 and 62	no
C13	Newark	Vacant	Sherwin Williams Company.	2438	10	no
C14	Newark	Vacant	Sherwin Williams Company	2438	57,58,59	no
C15	Newark	Parking Lot	Jarg Three Realty	2025	20	no
C16	Newark	Vacant	City of Newark	71	42 and 41	no
C17	Newark	Vacant	PSE&G Company	Block 130, Lots 12 and 1; Block 133, Lot 1, Block 134, Lot 10		no
C18	Newark	Vacant	Housing Authority of the City of Newark	1	24, 30, 46	no
C19	Newark	Vacant	NJDOT	4	1	no
C20	Newark	Vacant	City of Newark	435	5.01	no
C21	Kearny	Vacant	RTC Properties Inc	289	1,3	no
C22	Kearny	Vacant	Farnow Inc	289	13	no
C23	Kearny	Vacant	CONRAIL/Amtrak	284	54, 59B	no
C24	Harrison	waterfront	various	-	-	no
C25	Kearny	Vacant	Franklin Plastics Corp	1	12	no
C26	Kearny	Kearny Park	Hudson County, part of Riverbank Park	1	16-41	yes
Sources: AKRF GIS data						

POTENTIAL RELOCATION SITES, INTACT SWING SPAN

The potential relocation sites presented below (and shown on Figure 12) fall into several main categories:

- **Vacant, privately owned:** These sites along the Passaic River are usually adjacent to other private uses and may be slated for development or remediation (if contaminated). While these sites are within the area where the span can be floated and are large enough to fit the relocated swing span, the placement of the span on private land would create restrictions on public access and would limit the assurance that the bridge would be retained as a historic remnant in the future. In addition, it is expected that the costs, liabilities, and land requirements would minimize interest from private property owners.
- **Vacant, publically owned:** These sites are usually located near transportation ROWs or adjacent to parkland and may be slated for development.
- **Parkland, publically owned:** These sites comprise developed parkland, owned by Hudson or Essex counties.

COSTS

The relocation of the span to a site along the Hackensack or Passaic rivers or in Newark Bay would require at least baseline demolition ($2,500,000), relocation (up to $90,000 within the study area) demobilization (between $100,000 and $500,000), lead abatement ($300,000) and a foundation (from $100,000 to $900,000 depending on the level of public access and soil conditions). In total, relocating the span to one of the sites identified under this Alternative may cost up to $4,290,000. If the span were to be put back into functional use, it would require an additional $600,000 for a functional foundation and several hundred thousand dollars for bridge decking. However, it would not be practical to install the span in a functional use on any of the sites identified above.

ADVANTAGES

- **Retention of historic integrity of swing span:** By moving an intact swing span (rather than disassembling and reassembling it), the physical integrity of the swing span and its component parts would be maximized.

DISADVANTAGES

- **Lack of available publically owned land:** As mentioned above, the installation of the relocated span on privately owned sites would likely restrict public access and limit the assurance that the bridge is retained as a historic structure. If relocated to publically owned parkland, an intact swing span may block intended park uses or river views or prevent current or future programmatic uses of the park.
- **Cost:** The cost of dismantling, moving, performing lead abatement and installing the bridge onto a sound foundation, combined with potential site acquisition costs, would likely be prohibitive.
- **Loss of historic setting:** The integrity of setting and location of the Portal Bridge swing span would be compromised by moving the swing span from its original location along the Northeast Corridor. The association of the bridge with the Pennsylvania Railroad Historic District would be diminished relative to the distance the swing span would be moved from the Northeast Corridor. Furthermore, if the swing span were removed from the Hackensack River, the historic association of the Portal Bridge swing span with the Hackensack River corridor and the Hackensack River moveable bridges would be lost.
- **Risks during relocation and installation:** As noted above, the risks of moving the span on a barge along an active waterway are substantial, and increase as the span moves farther from the project site.

  Events that occurred during the construction of the River LINE Project, recently undertaken by NJ TRANSIT, underscore the hazards of moving a bridge span over relatively long distances by barge. As part of this project, NJ TRANSIT replaced the historic Rancocas Creek Bridge, a swing-span railroad bridge. In keeping with the stipulation of an MOA for that project, the historic swing span was removed intact from the original site, and transferred atop two barges down the Delaware River to a storage location. After subsequent outreach and marketing efforts over the duration of one year, no prudent or feasible location to which the original swing span could be moved was identified, and it was therefore demolished with the permission of the NJHPO. In April 2001, during the transportation of the new 210-foot-long Rancocas Bridge span to Rancocas Creek by barge, the span toppled

into the waterway. The accident was caused by the imbalance created by the height and weight of the span in relation to the width and draft of the barge. Several workers were forced to jump onto the barge or into the Rancocas Creek. The bridge was eventually righted using a system of cables and winches. It should be noted that the practical challenges inherent in relocating the Portal Bridge span are more substantial than those which faced the Rancocas Bridge relocation in several aspects. The existing Portal Bridge swing span is longer than the new Rancocas Bridge span by approximately one third. Furthermore, the Portal Bridge span would need to be dismantled and removed while maintaining traffic on the Northeast Corridor; and, depending on the planned destination, it would be necessary to move the bridge beneath several other working river crossings. Therefore, as the experiences of the River LINE Project illustrate, an element of risk to public safety is inherent in such an undertaking despite all efforts to ensure a safe and successful relocation, Finally, the potential impediment to navigation in this reach of the Hackensack would have to be authorized by the USCG. Similar discussions in the past have not yielded positive potential outcomes.

FEASIBILITY

It is expected that leasing or purchasing a portion of a privately owned site would be cost-prohibitive. Unless a site owner is specifically interested in receiving the swing span, performing lead abatement, and installing the span to preserve it as a historic element, it is unlikely that relocation to a privately owned site would be possible. It is also unlikely that publically owned vacant (non-parkland) sites would be appropriate for relocation. Some of the publically owned sites identified in Table 4 are located in highway or rail ROWs, areas that may be slated for additional development, or are being used as auxiliary facilities. Other sites in this category are undergoing remediation for contaminated materials. These sites are therefore being eliminated from further investigation at this time. As stipulated in the aforementioned MOA, however, owners of potential relocation sites would be made aware of the bridge demolition and salvage plan through a newspaper advertisement and/or correspondence offering the span and other components of the bridge for salvage.

Of the potential relocation site types identified above, publically owned parkland may be the most appropriate site type under this Alternative. In order to investigate the feasibility of this option, Hudson County Parks, was contacted to confirm whether the swing span could be placed on their property, either in Jersey City or elsewhere in Hudson County. On July 28, 2009, NJ TRANSIT sent a letter to Thomas McCann of the Hudson County Division of Parks describing the project and offering the Portal Bridge swing span to Hudson County for removal and reuse (see Appendix). When no reply was received from Hudson County, NJ TRANSIT sent an additional letter dated September 18, 2009 (see Appendix).

Thomas McCann contacted Nicholas Marton, Project Director for NJ TRANSIT, via telephone on October 8, 2009 to discuss the potential for removing and reusing the Portal Bridge swing span. Marton explained that under such a scenario, Hudson County would not be responsible for costs associated with relocating the swing span to the potential park location. McCann noted that the only location under consideration by the Hudson County Division of Parks for the potential relocation of Portal Bridge swing span consisted of land adjacent to the mouth of Penhorn Creek, south of the Portal Bridge project site. This vicinity was under consideration as the potential location for a segment of East Coast Greenway, a planned pedestrian and bicycle trail which, according to the vision of the non-profit East Coast Greenway Alliance, will extend from Maine to Florida. Consideration was given to using the Portal Bridge swing span as a means of crossing

Penhorn Creek in the event that this portion of Hudson County were selected as Greenway route. It is considered very unlikely that this property would be used for the Greenway, however, because its feasibility would depend on the acquisition and use of the Boonton Line, an active railroad owned by the Norfolk Southern Corporation.

As summarized in a subsequent letter from NJ TRANSIT to Hudson County, (dated October 19, 2009), McCann and Marton determined that moving the swing span to this location "appears problematic due to the dimensions and sheer mass of the existing span" (see Appendix). Furthermore, "A review of the suggested location also indicates that relocation of the span to Penhorn would potentially impact the navigability of the canal channel leading to the nearby PSE&G generating station along this reach of the Hackensack River." It was concluded that the USCG and the United States Army Corps of Engineers would likely consider the swing span an impediment to navigation were it placed in this location. Therefore, it was determined that the Penhorn Creek area would not constitute a suitable location for the structure; nor did the Hudson County Division of Parks identify any other potentially feasible locations in Hudson County, including Jersey City. However, it was agreed that McCann would present the issue at the next Hudson County Board of Freeholders meeting to inform other Hudson County agencies of the swing span's availability and give them the opportunity to comment on the potential for the swing its removal and reuse.

In a letter from McCann to Marton dated November 6, 2009, Hudson County definitively expressed their lack of interest in accepting the Portal Bridge swing span, noting, "the County sees no beneficial use or need for a structure of this size and nature. Further, there is no area in the County in which to relocate such a structure for the County's use or need" (see Appendix).

Therefore, it was concluded that due to Hudson County's unwillingness to house the swing span, it would not be feasible to relocate the structure to a publically owned parkland property. Public parkland sites, however, will be considered in the future as potential locations for salvaged elements of the Portal Bridge, in keeping with the stipulations of the MOA. The MOA states that the development of an interpretive exhibit located in a park, greenway, or public space would be undertaken which would present the history of the Pennsylvania Railroad and Portal Bridge. If possible, salvaged components of the Portal Bridge would be incorporated into the exhibit.

ALTERNATIVE D: PARTIALLY DISMANTLE SWING SPAN ON BULKHEAD AND MOVE BY BARGE TO WATERFRONT LOCATION IN NORTHERN NEW JERSEY; REASSEMBLE FOR NON-FUNCTIONAL PURPOSE

This Alternative would employ Method 2 for demolition, where the two arms of the swing span are removed individually and placed by crane directly onto the deck of a barge. However this would still not be enough to clear the northern bridge which would be constructed before the existing swing span is removed. Placing each span arm on its side on a barge (to reduce its height) would not be feasible since it would require extensive additional equipment (two heavy barge cranes) and bracing of the swing span truss members. Therefore, the list of sites available for relocation under this alternative is similar to the lists of sites under Alternative C. Of the potential relocation site types identified above, publically owned parkland would be the most appropriate. Potential relocation sites would also be identified through a newspaper advertisement or mailing or through direct contact with public agencies.

COSTS

As with Alternative C, the relocation of the span to a site along the Hackensack or Passaic rivers or in Newark Bay would require at least baseline demolition ($2,500,000), relocation (up to $90,000 within the study area) demobilization (between $100,000 and $500,000), lead abatement ($300,000) and a foundation (from $100,000 to $900,000 depending on the level of public access and soil conditions). In total, relocating the span to one of the sites identified under this Alternative may cost up to $4,290,000.

ADVANTAGES

- **Retention of historic integrity of swing span:** By moving a largely intact swing span (rather than disassembling and reassembling it), the physical integrity of the swing span and its component parts would be maximized.

DISADVANTAGES

- **Lack of available publically owned land:** As mentioned above, private owners of vacant or available sites would be reluctant to accept and install the swing span on their property without extensive compensation. For sites that involve relocation to publically owned parkland, an intact swing span may block intended park uses or river views or prevent current or future programmatic uses of the park.
- **Loss of historic setting:** Under this alternative, the integrity of location and setting of the Portal Bridge would be diminished to a greater extent than the previous alternatives considered by moving the swing span further from its original location. The physical association of the bridge with the Pennsylvania Railroad Historic District would be lost. Furthermore, if the swing span were removed from the Hackensack River, the historic association of the Portal Bridge swing span with the Hackensack River corridor and the Hackensack River moveable bridges would also be lost.
- **Risks during relocation and installation:** As mentioned above, the risks of moving the span on a barge along an active waterway increase with increased distance from the project site. Consideration should be given to the safety of recreational boaters and commercial traffic. The substructure or foundation required to support the bridge would be dependent on the soil conditions of a chosen relocation site.

FEASIBILITY

As with Alternative C, publically owned parkland may be the most appropriate relocation site type under this Alternative. These sites dovetail with stipulations of the MOA which state that the development of an interpretive exhibit located in a park, greenway, or public space would be undertaken which would present the history of the Pennsylvania Railroad and Portal Bridge. If possible, salvaged components of the Portal Bridge would be incorporated into the exhibit.

ALTERNATIVE E: PARTIALLY DISMANTLE SWING SPAN ON BULKHEAD AND MOVE BY BARGE TO WATERFRONT LOCATION IN NORTHERN NEW JERSEY; REASSEMBLE FOR FUNCTIONAL PURPOSE

This Alternative would also employ Method 2 whereby the two arms of the swing span are removed individually. The list of potential relocation sites is similar to Alternative D, however the bridge would be reassembled for a functional purpose. As discussed in the FEIS, the substructure and superstructure of the existing Portal Bridge are structurally deficient. Therefore,

pedestrian or bicycle traffic would be the only safe functional use that could be accommodated by the span if it were relocated to a new site. Safety concerns would preclude automotive or rail uses. If the bridge were put into a new functional use, it would be necessary to construct a new deck as well as a new foundation for the structure on its new location.

COSTS

The relocation of the span to a site along the Hackensack or Passaic rivers or in Newark Bay would require at least baseline demolition ($2,500,000), relocation (up to $90,000 within the study area) demobilization (between $100,000 and $500,000), lead abatement ($300,000) and a foundation (from $100,000 to $900,000 depending on the level of public access and soil conditions). In total, relocating the span to one of the sites identified under this Alternative may cost up to $4,290,000. None of the sites identified above would be conducive to installing the span in a functional manner which would require an additional $600,000 for a functional foundation and several hundred thousand dollars for decking on the bridge.

ADVANTAGES

- **Retention of historic integrity of swing span:** By moving a largely intact swing span (rather than disassembling and reassembling it), the physical integrity of the swing span and its component parts would be maximized.

DISADVANTAGES

- **Lack of available publically owned land:** As mentioned above, private owners of vacant or available sites would be reluctant to accept and install the swing span on their property without extensive compensation. For sites that involve relocation to publically owned parkland, an intact swing span may block intended park uses or river views or prevent current or future programmatic uses of the park.
- **Loss of historic setting:** Under this alternative, the integrity of location and setting of the Portal Bridge would be diminished to a greater extent than the previous alternatives considered by moving the swing span further from its original location. The physical association of the bridge with the Pennsylvania Railroad Historic District would be lost. Furthermore, if the swing span were removed from the Hackensack River, the historic association of the Portal Bridge swing span with the Hackensack River corridor and the Hackensack River moveable bridges would also be lost.
- **Risks during relocation and installation:** As mentioned above, the risks of moving the span on a barge along an active waterway increase with increased distance from the project site. Consideration should be given to the safety of recreational boaters and commercial traffic. The substructure or foundation required to support the bridge would be dependent on the soil conditions of a chosen relocation site.

FEASIBILITY

As with Alternatives C and D, publically owned parkland may be the most appropriate relocation site type under this Alternative. These sites dovetail with stipulations of the MOA which state that the development of an interpretive exhibit located in a park, greenway, or public space would be undertaken which would present the history of the Pennsylvania Railroad and Portal Bridge. If possible, salvaged components of the Portal Bridge would be incorporated into the exhibit.

ALTERNATIVE F: DISMANTLE SWING SPAN AND MOVE BY TRUCK TO A LOCATION IN NEW JERSEY FOR REASSEMBLY

This Alternative would employ Demolition Method 3 in which the span would be dismantled into pieces that would be approximately 60 feet long, 13.5 feet high and 8 feet wide. Assuming a payload of 60,000 pounds per truck, the entire swing span bridge will require about 25 trucks in order to be transported by road. This Alternative opens the study area to the entire state of New Jersey.

The demolition method would unavoidably compromise the structural integrity of the span, however the technique where truss members are cut is preferable for ease of demolition. The technique of removing rivets manually would be preferable if the span is installed and displayed as a historic structure but would be immensely costly and time consuming.

COSTS

This relocation alternative would require at least baseline demolition ($2,500,000) with an additional $1,000,000 for demolition through rivet removal, and lead abatement ($300,000). The relocation of the bridge would require at least $50,000 for bridge loading and unloading, plus $125 for every mile traveled. The bridge would have to be reassembled through welds and bolts at a minimum cost of $1,000,000. Costs for a bridge foundation under this relocation alternative may vary from $100,000 to $1,500,000. Overall, relocation may cost upwards of $6,400,000.

ADVANTAGES

- **Ease of transport:** This alternative would allow the bridge to be transported to any site within the state of New Jersey that is accessible by highway.
- **Potential availability of vacant land:** Because this option widens the study area for potential relocation sites to the entire State of New Jersey, the likelihood of finding a vacant, available site for relocation is also increased.

DISADVANTAGES

- **Loss of historic integrity:** Under this alternative, both the physical integrity and the integrity of location of the Portal Bridge would be diminished to a greater extent than the other alternatives considered. If the bridge were cut using a torch or other mechanical means, the span would not only lose functional strength, but would also bear physical evidence of its disassembly. If the bridge were dismantled manually by removing rivets, it is likely that in reassembling the span, it would be necessary to retrofit it with new rivets or bolts, thus preserving the appearance but losing some of the original fabric.
- **Loss of historic setting:** The integrity of setting and location of the Portal Bridge swing span would also be compromised by moving the swing span further from its original location. The association of the bridge with the Pennsylvania Railroad Historic District would be removed. Furthermore, if the swing span were removed from the Hackensack River, the historic association of the Portal Bridge swing span with the Hackensack River corridor and the Hackensack River moveable bridges would also be lost.
- **Cost:** The cost of moving the demolished bridge on trucks would be prohibitive (approximately $4,000,000). The cost of re-assembling the bridge from 60 foot sections would also be prohibitive (approximately $2,000,000).

FEASIBILITY

This alternative greatly improves the portability of bridge components and opens the relocation area to the entire state of New Jersey, as prescribed by the NJHSC Resolution. However, the known costs of this alternative are already prohibitive and unknown factors of the relocation may create additional expense. More importantly, a large effort, including a statewide mailing and advertising campaign, would be required to find a party interested in removing the bridge from the site and incurring costs of relocation. Therefore, this option would not be feasible.

F. CONCLUSIONS

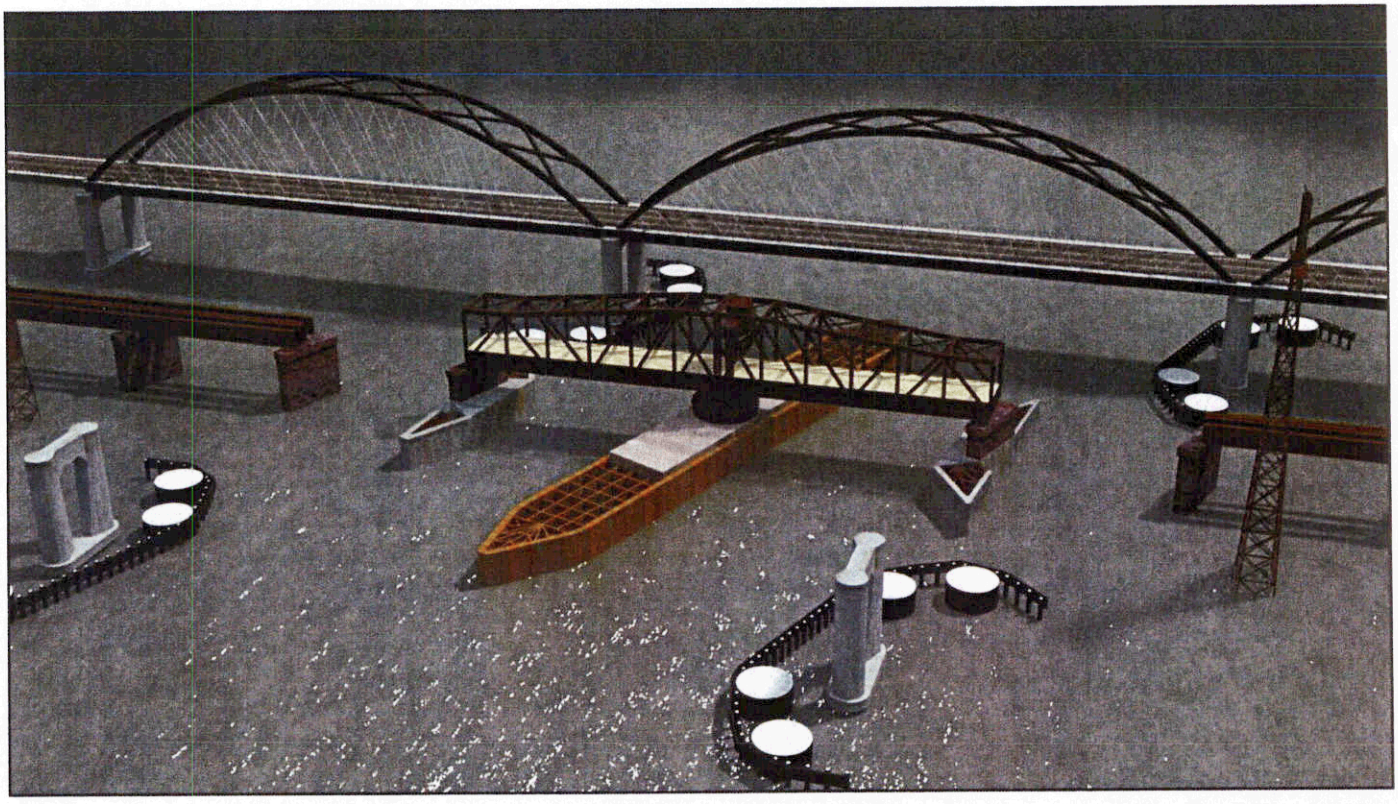
As discussed above, privately owned or publically owned vacant (non-parkland) sites would not be appropriate for relocation due to lack of landowner willingness to accept the bridge, ongoing remediation efforts, potential interference with development plans, safety concerns, and/or associated cost. The most potentially feasible such alternative from a costs and constructability standpoint, the removal of the span to the Northeast Corridor embankment, has been eliminated as an alternative due to conflicts with planned development and landowner unwillingness to accept the bridge.

The feasibility analysis concluded that publically owned parkland (or sites with a parkland component planned as part of site remediation or development) represent the only potentially feasible alternative for bridge relocation. Specifically, properties owned by the Hudson County Division of Parks were identified as potentially feasible locations worthy of further consideration. Following coordination with Hudson County Parks and further analysis, however, it was determined that the Portal Bridge swing span could not be feasibly moved to a location within the Hudson County park system due to the owner's unwillingness to accept the structure.

In conclusion, this Feasibility Study has identified alternatives for the relocation and preservation of the Portal Bridge swing span and has evaluated the feasibility of these alternatives in terms of constructability, cost, public safety, and public accessibility.

As described in Section A, above, the project team will continue to coordinate with the NJHPO in implementing the historic resources commitments described in the project MOA. In addition to continued coordination with the NJHPO on project design and preparation and implementation of a CPP, these measures include the completion of Historic American Engineering Record (HAER) documentation of the Portal Bridge and portions of the Pennsylvania Railroad Historic District and development of an interpretive exhibit that would present the history of the bridge and historic district, including possible salvaged elements of these resources. Possible items for salvage might include the swing span pivot mechanism or other elements of that relate to the history, character, and engineering of the bridge. Furthermore, a Salvage and Marketing Plan will be developed in consultation with NJHPO to identify elements of the Portal Bridge that may be feasibly salvaged and reused. ✳

FIGURES

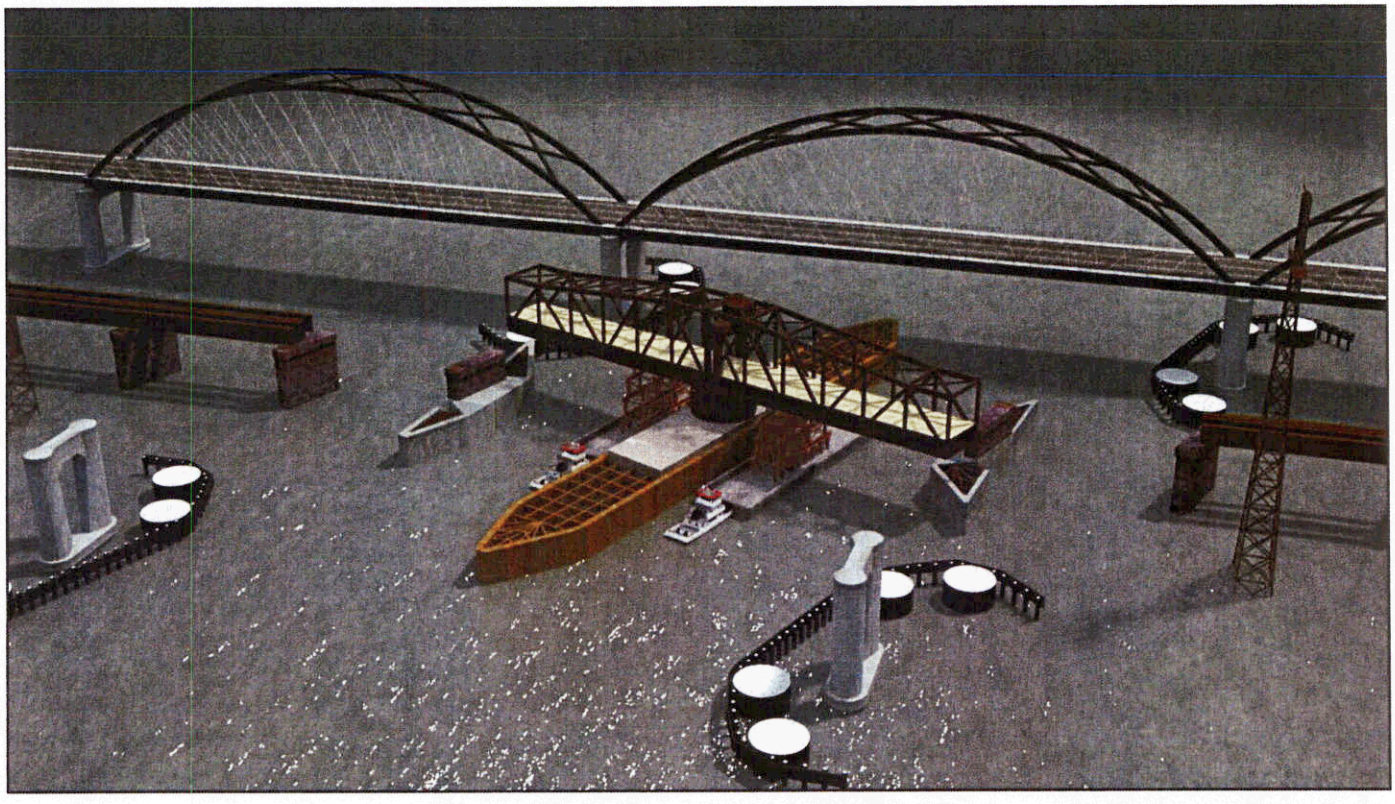


Existing Swing Bridge. The north replacement bridge is in service; the southern bridge has been partially constructed

Swing span demolition steps
Figure 1

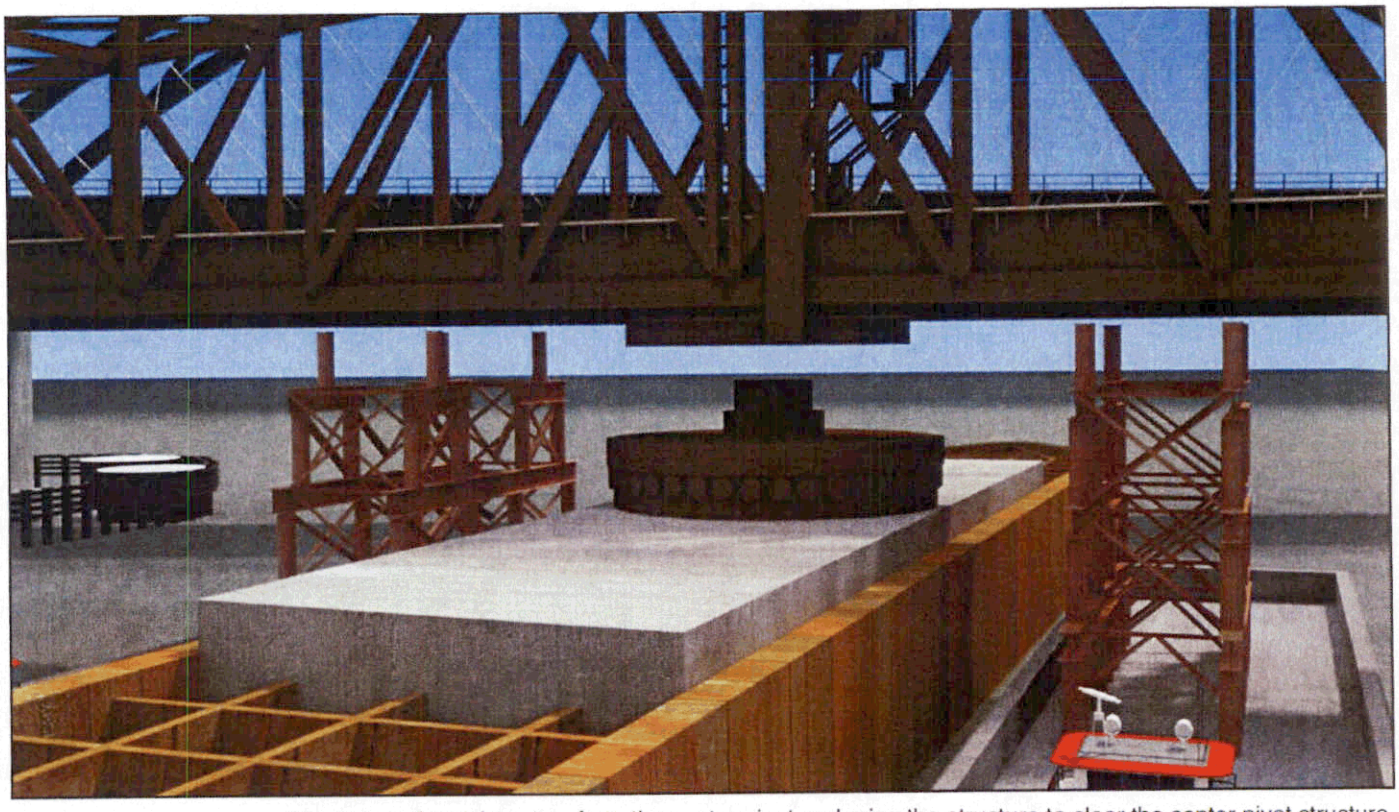
Install a barge equipped with a jacking tower under each arm

Swing span demolition steps
Figure 2



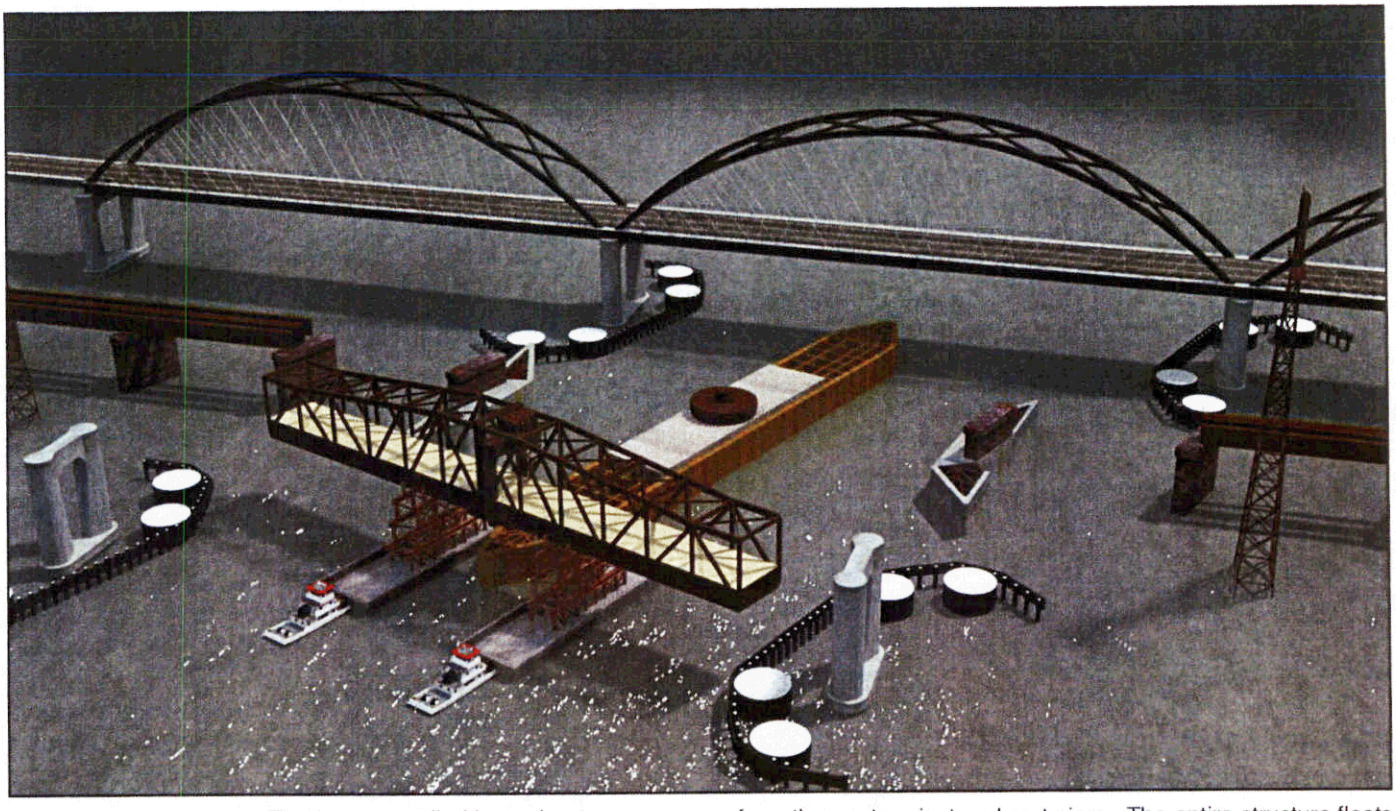
Rotate the swing span in such a way that the arms are perpendicular to the fender system

Swing span demolition steps
Figure 3



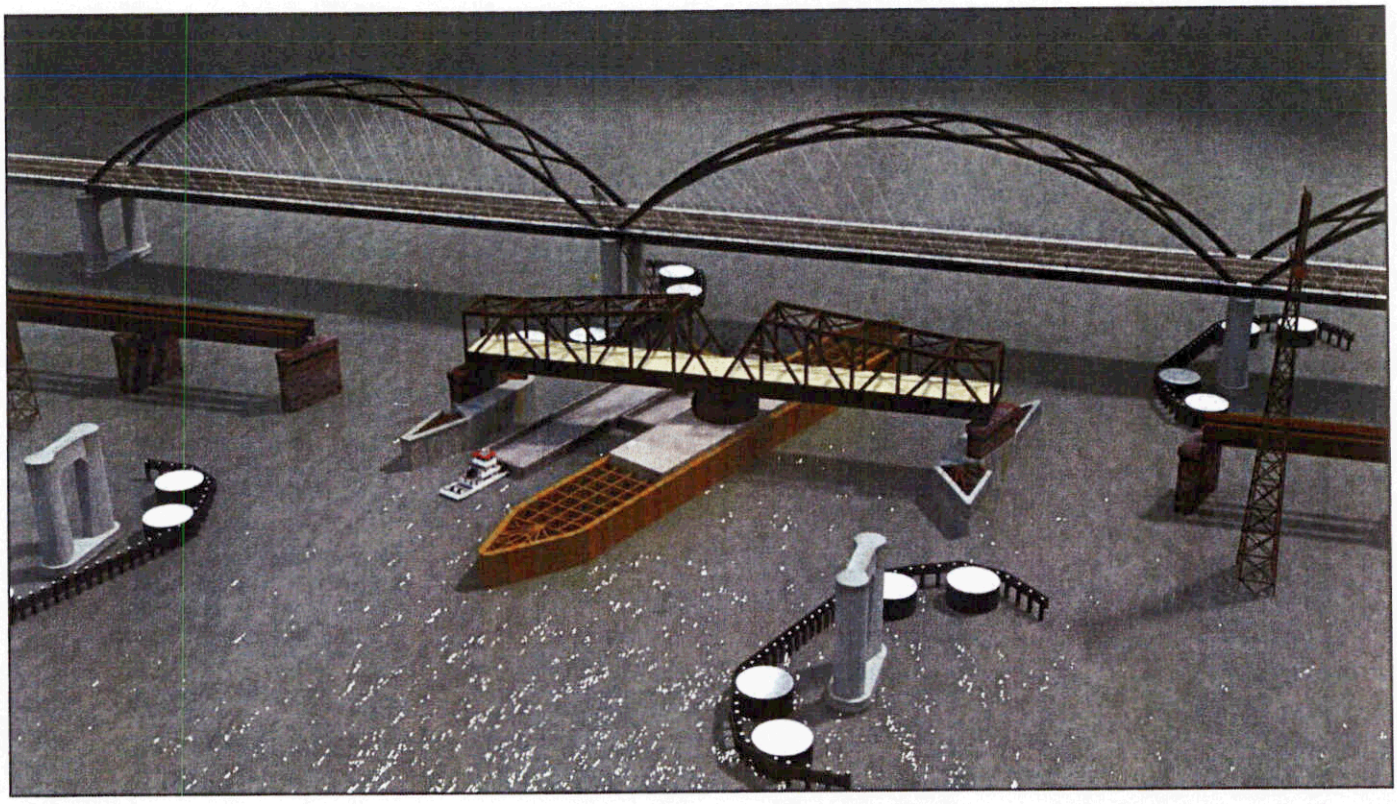
Disconnect the swing span from the center pivot and raise the structure to clear the center pivot structure.
The bridge is resting on the jacking towers located on the barges

Swing span demolition steps
Figure 4



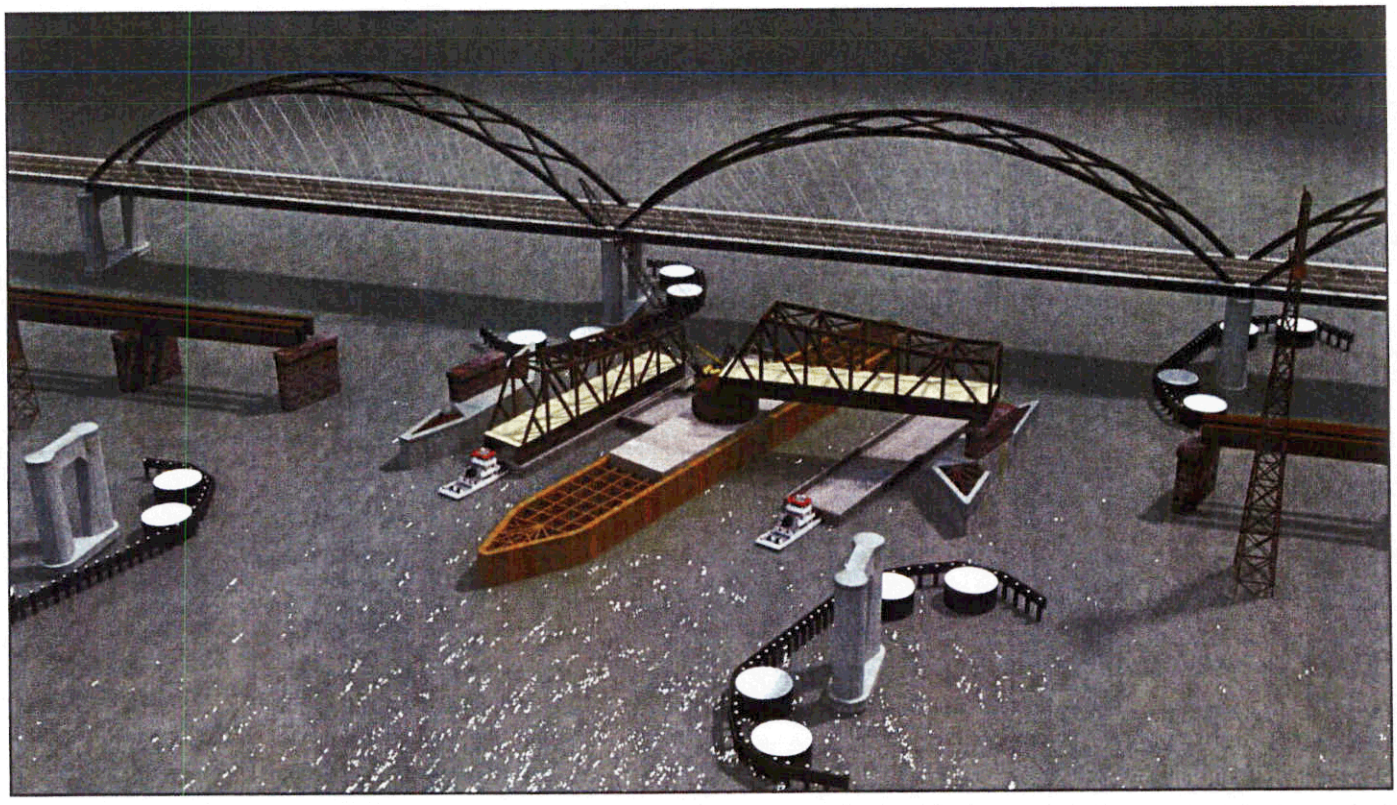
The barges, pulled by tugboats, move away from the center pivot and rest piers. The entire structure floats to the nearest dock where it will be either dismantled into truck sized pieces or lowered onto the decks of the barges to be floated to another location

Swing span demolition steps
Figure 5



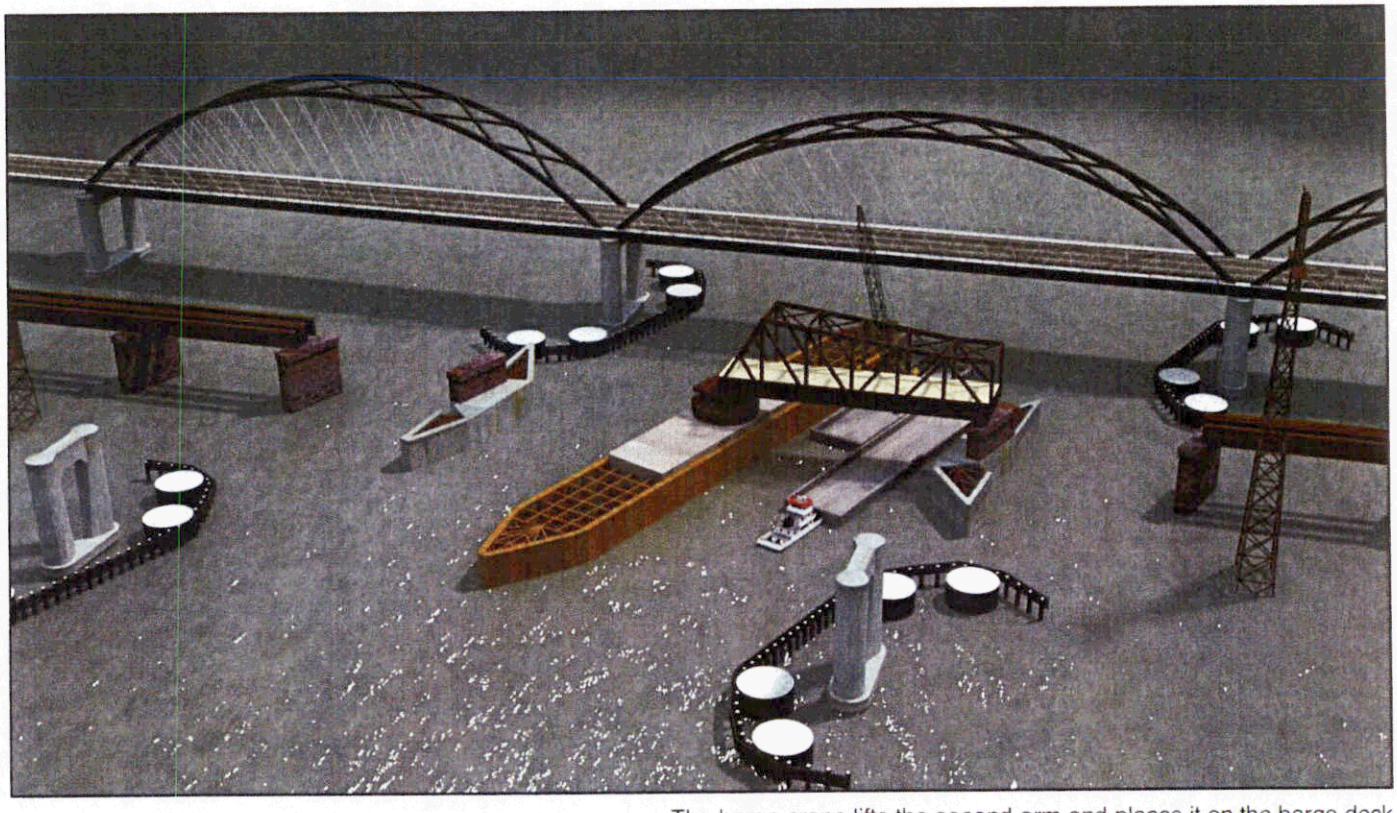
Cut upper and lower chords in the center pier area. Install one barge under the arm ready to be picked by the barge crane

Swing span demolition steps
Figure 6



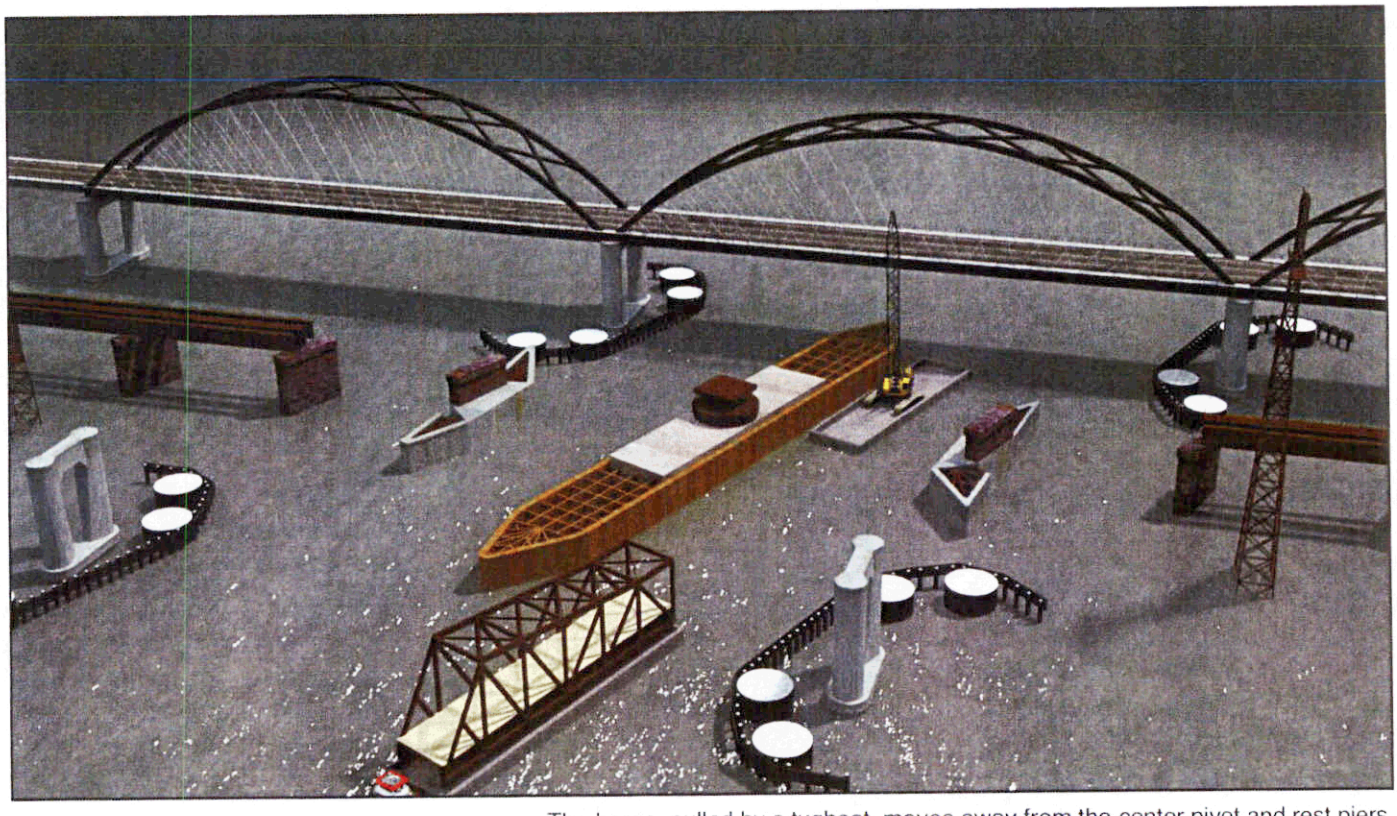
The barge crane lifts the detached arm and places it on the barge deck

Swing span demolition steps
Figure 7



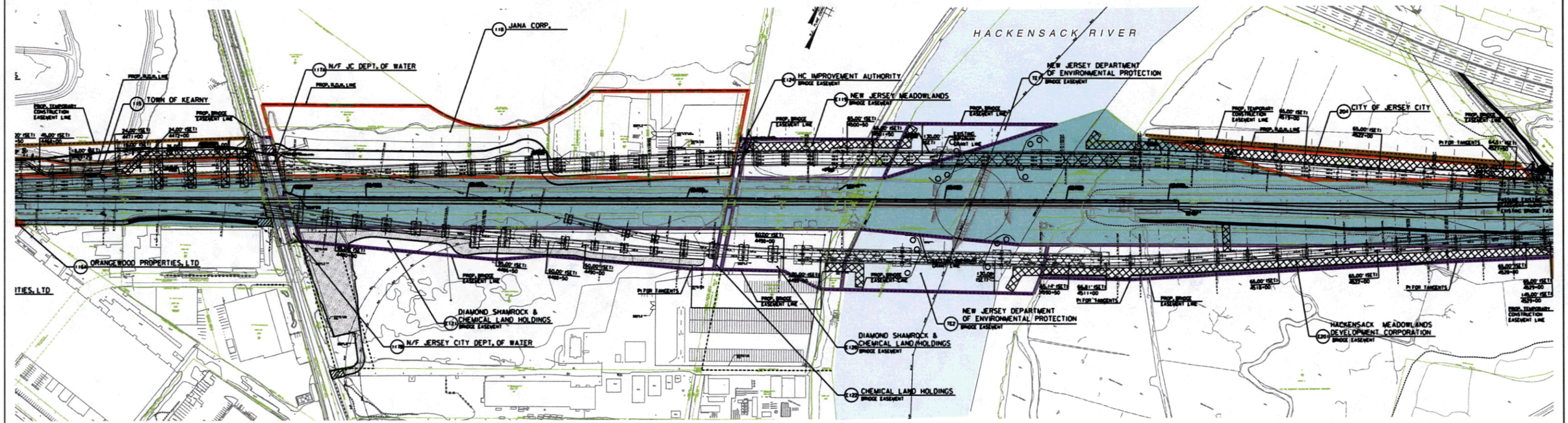
The barge crane lifts the second arm and places it on the barge deck

Swing span demolition steps
Figure 8



The barge, pulled by a tugboat, moves away from the center pivot and rest piers.
The two arms are be shipped to another location

Swing span demolition steps
Figure 9



Existing Amtrak ROW

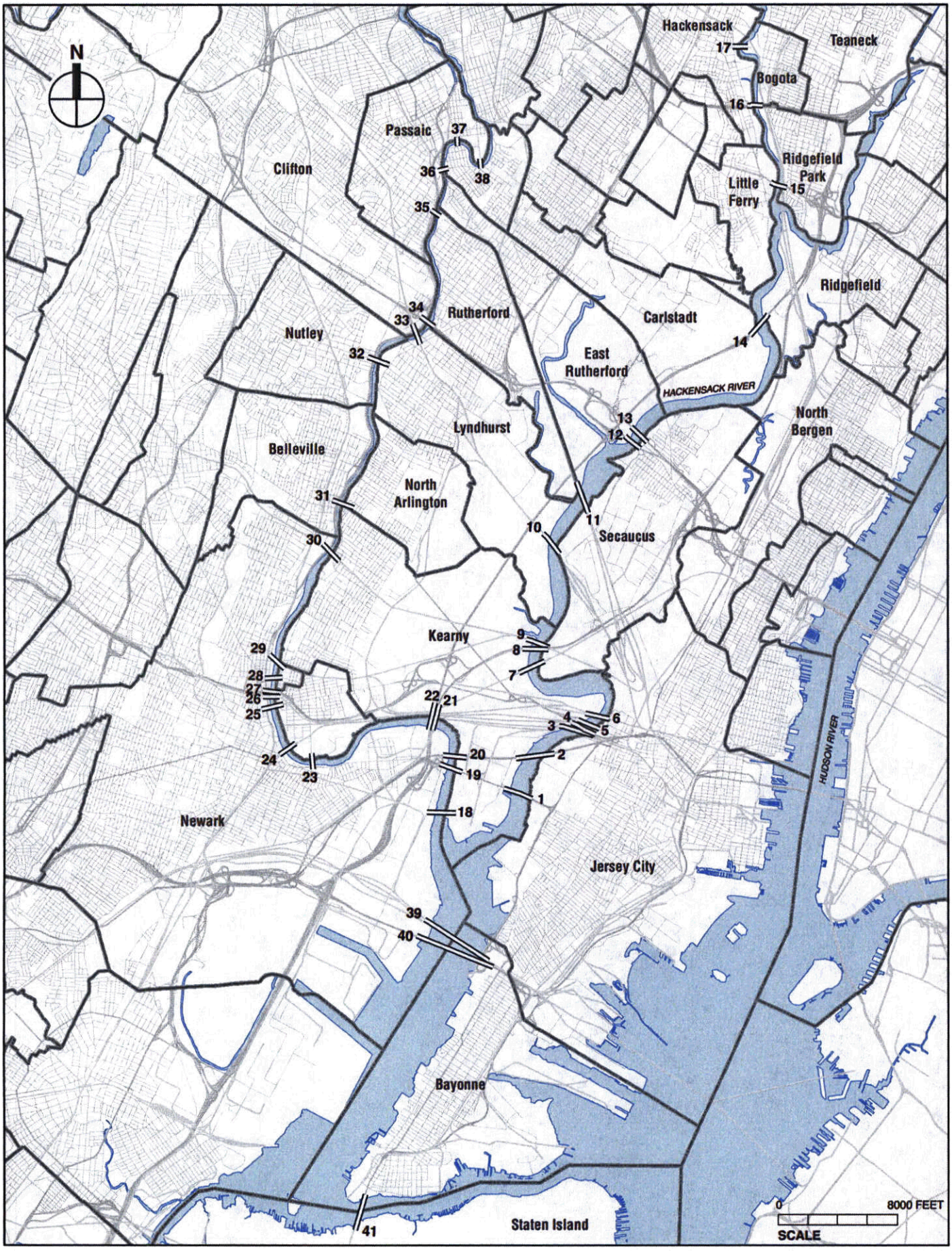
Proposed Amtrak ROW

Proposed Amtrak Easement

NJ TRANSIT
PORTAL BRIDGE CAPACITY
ENHANCEMENT PROJECT

Portal Bridge and Proposed Bridges and Amtrak Right-of-Way
Figure 10

12.21.09

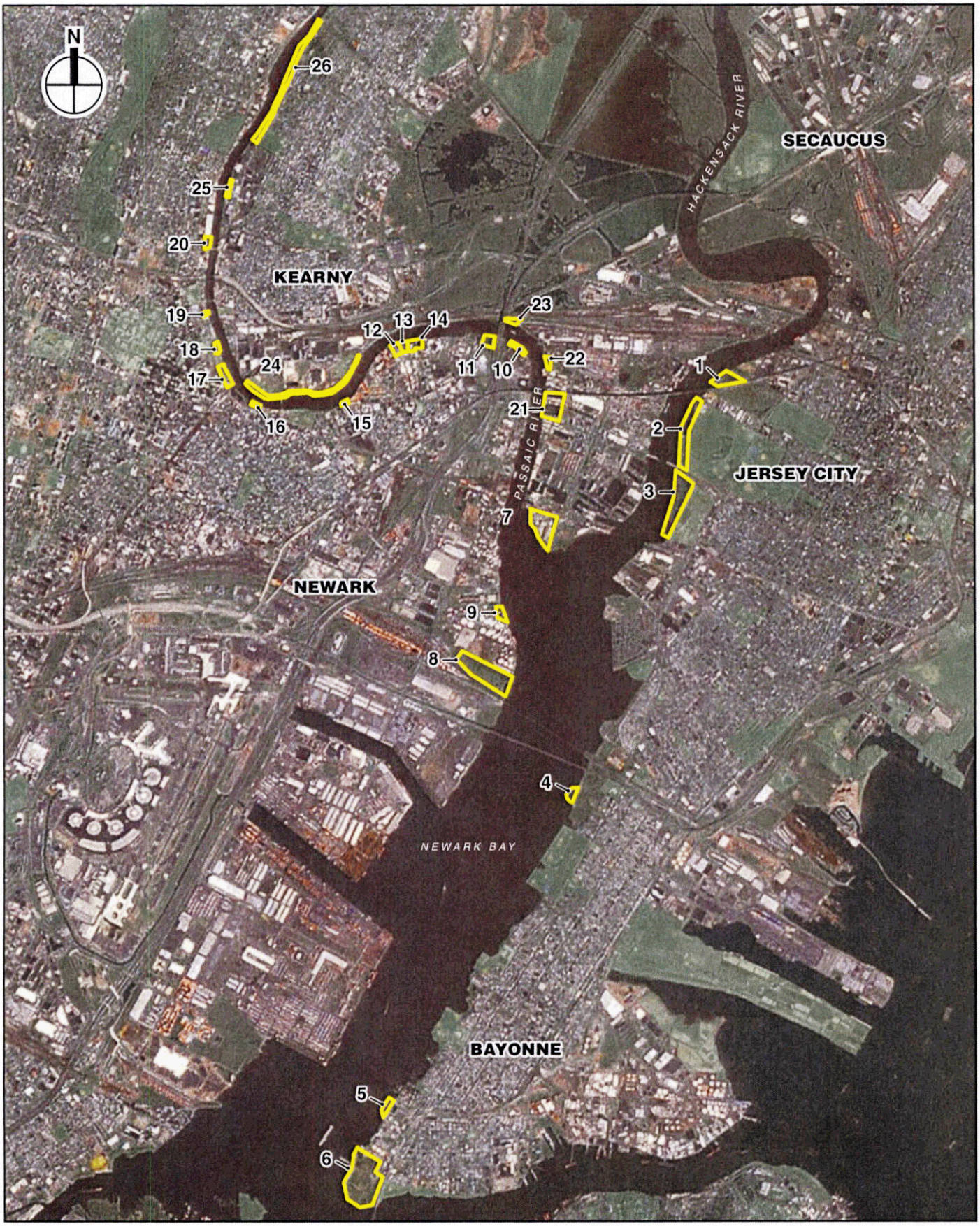


NJ TRANSIT
PORTAL BRIDGE CAPACITY
ENHANCEMENT PROJECT

Study Area Bridge Clearances

Figure 11

12.21.09



NJ TRANSIT
PORTAL BRIDGE CAPACITY
ENHANCEMENT PROJECT

Potential Swing Span Relocation Sites

Figure 12

APPENDIX

AKRF
Environmental and Planning Consultants

440 Park Avenue South
New York, NY 10016
tel: 212 696-0670
fax: 212 213-3191
www.akrf.com

March 30, 2009

Charles Scott
New Jersey Historic Preservation Office
501 East State Street
Trenton, NJ 08625-0404

Re: **Portal Bridge Capacity Enhancement Project, Hudson County, New Jersey**
Historic Sites Council Application for Project Authorization

Dear Charles:

As you know, The National Railroad Passenger Corporation (Amtrak) and the New Jersey Transit Corporation (NJ TRANSIT) have proposed the Portal Bridge Capacity Enhancement Project to enhance the capacity and improve the operation of the Portal Bridge, a passenger rail bridge over the Hackensack River. In coordination with your office, the Federal Railroad Administration (FRA) and NJ TRANSIT prepared a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation for the project in October 2008 to analyze the potential environmental impacts from the proposed project. A Record of Decision (ROD) published in December 2008 by FRA.

Due to the involvement of NJ TRANSIT, an instrumentality of the State of New Jersey, the project is subject to the New Jersey Register of Historic Places Act of 1970. The project will result in a physical effect on the State Register-listed Portal Bridge, and therefore, NJTRANSIT will need to secure Project Authorization as per the stipulations of the New Jersey Register of Historic Places Act.

Enclosed please find fifteen copies of the New Jersey Historic Sites Council Application for Project Authorization for the Portal Bridge Capacity Enhancement Project. Please distribute the appropriate number to the New Jersey Historic Sites Council.

Thank you very much for your assistance. We look forward to seeing you at the New Jersey Historic Sites Council meeting in April. I can be reached by telephone at 646.388.9717 or via email at rconway@akrf.com

Sincerely,

Robert Conway
Senior Vice President
AKRF

cc: N. Marton, D. Callendar, NJ TRANSIT; R. Cross, Gannett Fleming; M. Mack, Amtrak; M. McDonald, AKRF

COUNTY OF HUDSON
OFFICE OF THE COUNTY ADMINISTRATOR
ADMINISTRATION ANNEX
567 PAVONIA AVENUE
JERSEY CITY, NEW JERSEY 07306

THOMAS A. DE GISE
COUNTY EXECUTIVE

ABRAHAM ANTUN
COUNTY ADMINISTRATOR

TELEPHONE
(201) 795-6100

FAX
(201) 795-6520

November 6, 2009

Nicholas L. Marton
Project Director, PBCE
NJ Transit
One Penn Plaza East
Newark, New Jersey 07105-2246

Re: Portal Bridge Capacity Enhancement Project (PBCE)
Potential Portal Bridge Swing Span reuse

Dear Mr. Marton:

Thank you for your letter of October 19, 2009 inquiring whether the County has an interest in the reuse of the portal swing bridge.

From the PCBE project applications, it is our understanding that NJ Transit must remove the portal swing bridge from its current location in order to complete the PBCE project. Based on the specifications provided, the center span of the swing bridge is about 300 feet long, 30 feet wide and 48 feet tall. The weight at the center span is 753 tons. The swing bridge is about 100 years old and is currently located between Kearny and Secaucus over the Hackensack River and is used for rail line purposes only.

In reviewing this matter, the County sees no beneficial use or need for a structure of this size and nature. Further, there is no area in the County in which to relocate such a structure for the County's use or need.

Thank you for your inquiry and your notice. If you have any questions regarding this matter, please do not hesitate to contact me.

Very truly yours,

Laurie Cotter
Deputy County Administrator

cc: Thomas DeGise, County Executive
Abe Antun, County Administrator
Thomas McCann, Division Chief of Parks
Stephen Marks, Director of Planning
Ken Jennings, Assistant Director of Parks & Recreation
Borivoj Jasek, County Engineer
Susan McCurrie, Assistant County Counsel

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL & HISTORIC RESOURCES, HISTORIC PRESERVATION OFFICE
PO Box 404, Trenton, NJ 08625
TEL: (609) 984-0176 FAX: (609) 984-0578
www.state.nj.us/dep/hpo

ION S. CORZINE
Governor

MARK N. MAURIELLO
Acting Commissioner

March 26, 2009

Mr. Nicholas Marton
New Jersey Transit
One Penn Plaza East
Newark, New Jersey 07105-2246

Re: Portal Bridge Capacity Enhancement Project
Town of Kearney and Town of Secaucus, Hudson County
Pennsylvania, New Jersey, and New York Railroad Company Portal Bridge
Application for Project Authorization
New Jersey Register of Historic Places Act

Dear Mr. Marton:

I thank you for submitting an Application for Project Authorization (Application) under the New Jersey Register of Historic Places Act for the above referenced proposed undertaking. The **Pennsylvania, New Jersey, and New York Railroad Company Portal Bridge [Portal Bridge]** was listed on the New Jersey Register of Historic Places on February 22, 1982.

The Application proposes the replacement of the 1910 built steel through truss, center pivot moveable Portal Bridge, with two bridges, one with three tracks and the second with two tracks. This proposed project will support the immediate and long term expansion of railroad passenger service between New Jersey and New York and is being undertaken in conjunction with the construction of a new railroad tunnel under the Hudson River.

Historic Preservation Office (HPO) staff has determined that the Application was **technically and professionally complete and sufficient** in accordance with N.J.A.C. 7:4-7.1(d) on March 20, 2009 upon HPO receipt of a revised Application. Based upon the documentation in the submitted Application, HPO staff has also determined that the undertaking **will encroach upon Portal Bridge** because, in accordance with the regulations implementing the New Jersey Register of Historic Places Act, N.J.A.C. 7:4-7.4 Criteria for Determining whether an Undertaking Constitutes an Encroachment, especially subpart (a) 1 and 2, the project as proposed will demolish and replace the

historic property, and, therefore, does not conform to the *Secretary of the Interior's Standards*.

The project has been placed on the agenda (copy attached) of the April 16, 2009 meeting of the Historic Sites Council (HSC). New Jersey Transit will be given an opportunity to present the Application and interested members of the public will be provided with an opportunity to comment on the project. After receiving comments, the Historic Sites Council will make a formal recommendation to the Commissioner of the Department of Environmental Protection.

The April 16, 2009 Historic Sites Council meeting is currently scheduled to begin at 10:00 AM in the New Jersey Department of Environmental Protection Public Hearing Room, 401 East State Street, Trenton, New Jersey.

Please note that, in accordance with N.J.A.C. 7:4-7.2 c, New Jersey Transit, as the applicant, must provide written notice to all of the affected and interested parties listed in the Application that the undertaking has been deemed an encroachment and is scheduled for public review by the Historic Sites Council on April 16, 2009. You may forward this letter as such notice.

If you have any questions regarding this project review, please contact HPO staff Charles Scott at (609) 633-2396 or Charles.Scott@dep.state.nj.us.

Sincerely,

Daniel D. Saunders
Acting Administrator

C: Dara Callender, NJ Transit
Ken Kulick, Amtrak, 60 Massachusetts Ave., NE, 4W-113, Washington, DC
Molly McDonald / Robert Conway, AKRF, Inc., 440 Park Ave. South, New York
Ken Koschek, NJDEP

CS: C/NJTNJRHPPortalBridge1

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ION S. CORZINE
Governor
NATURAL & HISTORIC RESOURCES, HISTORIC PRESERVATION OFFICE
PO Box 404, Trenton, NJ 08625
TEL: (609) 984-0176 FAX: (609) 984-0578
www.state.nj.us/dep/hpo
MARK N. MAURIELLO
Acting Commissioner

March 26, 2009
HPO-C2009-175

PUBLIC MEETING NOTICE

TO: Applicants and Interested Parties

FROM: Daniel D. Saunders, Acting Administrator

RE: Meeting of the New Jersey Historic Sites Council

The upcoming meeting of the New Jersey Historic Sites Council is scheduled for Thursday, **April 16, 2009 at 10:00 a.m.** The meeting will be held at the NJ Department of Environmental Protection Building, 401 East State Street, 1st Floor Public Hearing Room, Trenton, New Jersey.

The Historic Sites Council reviews public projects, which affect properties listed on the New Jersey Register of Historic Places. This Council acts in an advisory capacity to the Commissioner of the Department of Environmental Protection for the State of New Jersey. Please note that photo identification is required to gain access to the building. Public comment is welcome at the meeting.

If you plan to attend the meeting, please call Sara Homer the day before the meeting at 609/292-0061 to confirm the time, place, and date of the meeting.

Thank you.

Enclosed: Agenda
Directions to meeting

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
JON S. CORZINE
Governor
NATURAL & HISTORIC RESOURCES, HISTORIC PRESERVATION OFFICE
PO Box 404, Trenton, NJ 08625
TEL: (609) 984-0176 FAX: (609) 984-0578
www.state.nj.us/dep/hpo
MARK N. MAURIELLO
Acting Commissioner

NEW JERSEY HISTORIC SITES COUNCIL MEETING

Department of Environmental Protection Building
Public Hearing Room, 1st Floor
401 East State Street, Trenton, NJ

Thursday, April 16, 2009 10:00 a.m.

AGENDA

I. Public Notice

II. Roll Call

III. Communications

IV. Old Business
Minutes **December 18, 2008** Historic Sites Council Meeting

V. New Business

Applicant:	New Jersey Transit
County Municipality:	Hudson County, Town of Kearney and Town of Secaucus
Resource:	Pennsylvania, New Jersey & New York Railroad Company Portal Bridge (over the Hackensack River)
Project Name:	**Portal Bridge Capacity Enhancement Project**

VI. Public Comment

VII. Other Business

We encourage full participation in public comment.
Please submit any requests for needed accommodations as soon as possible.

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE
Governor

NATURAL & HISTORIC RESOURCES
Office of the Assistant Commissioner
PO Box 404
Trenton, New Jersey 08625
Tel: (609)292-3541
Fax: (609) 984-0836

MARK N. MAURIELLO
Acting Commissioner

April 24, 2009

Mr. Nicholas Marton
Senior Project Manager
New Jersey Transit
One Penn Plaza East
Newark, New Jersey 07105-2246

RE: Hudson County, Towns of Kearny and Secaucus
Pennsylvania, New Jersey, and New York Railroad Company Portal Bridge

Dear Mr. Marton:

I am writing regarding your application for authorization to replace the Pennsylvania, New Jersey, and New York Railroad Company Portal Bridge #6.10 over the Hackensack River (hereafter Portal Bridge). In accordance with the New Jersey Register of Historic Places Act, as implemented in N.J.A.C. 7:4, Subchapter 7, the Historic Preservation Office presented the application to the New Jersey Historic Sites Council at a meeting of the Council on April 16, 2009. Based on the Council's Resolution (Resolution 318, copy attached), I hereby authorize your request with the following conditions:

1. New Jersey Transit (NJ Transit) shall be responsible for the preservation and one time relocation of the Portal Bridge [swing span] within the project area, along the Hackensack River or at another feasible location within the State of New Jersey.

2. NJ Transit shall develop a thorough feasibility study including a cost and schedule analysis for the relocation of the bridge. NJ Transit shall submit the feasibility study to the Historic Sites Council for review and approval within 180 days of [this] project authorization.

3. If NJ Transit concludes that it is feasible to relocate the bridge, the bridge will be relocated. In that case, the project will still have a (reduced) adverse effect and the mitigation proposed in the project Section 106 Memorandum of Agreement will still be executed. If NJ Transit's study determines that it is not feasible to relocate the historic Portal Bridge, NJ Transit shall present the feasibility study to the Historic Sites Council for review and recommendation to

the Department. In that case, NJ Transit shall also present suggestions for mitigation which is commensurate with the loss of the resource.

In accordance with N.J.A.C. 7:4-7.2 (e) 7.ii (1), you must respond to the conditions as outlined above within 60 days of the issuance of this letter. If you agree in writing that all the conditions are acceptable and will be met, the undertaking may proceed. If you disagree or fail to respond to the requirements set forth within 60 days, I must, by regulation, deny your application.

If you have any questions, please call Daniel Saunders, Acting Administrator of the Historic Preservation Office, at (609) 633-2397.

Sincerely,

Amy Cradic
Assistant Commissioner for
Natural and Historic Resources

Attachment (Resolution 2009-318)

C: Mr. Dave Markunas, Chair, Historic Sites Council
Mr. Dennis Elwell, Mayor, Town of Secaucus
Mr. Al Santos, Mayor, Town of Kearny
Hudson County Division of Cultural Affairs & Tourism

NEW JERSEY HISTORIC SITES COUNCIL
RESOLUTION # 2009-318

NAME OF PROPERTY ON STATE REGISTER OF HISTORIC PLACES:	Pennsylvania, New Jersey, and New York Railroad Company Portal Bridge
COUNTY:	Hudson
MUNICIPALITY:	Towns of Kearny and Secaucus
DATE REGISTERED:	February 22, 1982
APPLICANT:	New Jersey Transit (NJ Transit)

WHEREAS, the New Jersey Historic Sites Council (HSC), created pursuant to N.J.S.A.13:1B-15.108 et. seq., is authorized by N.J.S.A.13:1B-15.108 to offer advice and recommendations concerning encroachments upon properties listed in the New Jersey Register of Historic Places to the Commissioner of the Department of Environmental Protection (DEP); and

WHEREAS, the jurisdiction of the Department of Environmental Protection / Historic Sites Council under the New Jersey Register of Historic Places Act (NJRHPA) concerns the consideration of actions with effects, both direct and indirect, on New Jersey Register of Historic Places listed properties; and

WHEREAS, NJ Transit is requesting authorization to replace the Pennsylvania, New Jersey, and New York Railroad Company Portal Bridge #6.10 over the Hackensack River (hereafter Portal Bridge); and

WHEREAS, the New Jersey Historic Sites Council conducted an open public meeting on April 16, 2009, pursuant to the requirements of the "Open Public Meetings Act" Chapter 231, Laws of 1975; and

WHEREAS, the New Jersey Historic Sites Council (Council), based upon evidence presented at the public meeting, made the following findings of fact:

1) Portal Bridge was fabricated and erected in 1907 by the Pennsylvania Steel Company of Steelton, Pennsylvania for the Pennsylvania, New Jersey, and New York Railroad Company. The Pennsylvania, New Jersey, and New York Railroad Company was chartered by the Pennsylvania Railroad to build the New Jersey segment of the Pennsylvania Railroad's New York Improvement and Tunnel Extension project. This massive project included the construction of approximately 8 miles of double track railroad built on earthen fill and eleven bridges across the Hackensack Meadowlands between Harrison, New Jersey and the west portal of the North (Hudson) River subaqueous tunnel to New York City; the Charles McKim designed monumental Pennsylvania Station; approximately 10 miles of railroad tunnel beneath Manhattan and the East River leading to a massive railroad yard in Sunnyside, Queens; and a railroad connection to New England using an elevated viaduct and the 1,017 foot long Hell Gate Bridge steel arch bridge over the East River. Portal Bridge, along with the North [Hudson] River Tunnels, provided Pennsylvania Railroad passengers with

direct access to New York City and beyond, and eliminated the need to detrain in Jersey City and transfer to a ferry boat to cross the Hudson River.

2) The boundaries of the New Jersey Register listed property include the swing bridge and the approach spans. The northern and southern abutments form the boundary of the listed property. Portal Bridge is significant as one of only three (3) center bearing swing bridges (as distinct from the other type of swing bridge, the rim bearing bridge) on the Northeast Corridor [former Pennsylvania Railroad] Line between New York City and Washington, D.C. Swing bridges were constructed mainly from 1880 until 1910, when bascule and vertical lift bridges became the preferred structures. The New Jersey Register of Historic Places nomination describes the Portal Bridge as follows:

   i) The Portal Bridge is a double-track, center bearing swing bridge crossing the Hackensack River just south [downstream] of the New Jersey Turnpike crossing. The superstructure of the bridge is Bessemer steel and the piers are rock faced stone and concrete. The substructure is 23 feet above mean high water. The bridge consists of six deck girder spans, each 109 feet long, and a 300.6 foot long swing span. The swing span consists of two through trusses carrying two tracks by means of stringers and floorbeams that frame into the lower chord of the trusses. It [the swing span] is a Warren truss with laterals. The dead loads from the through trusses are transmitted through a cross girder to a center bearing on the circular center pier. A circular drum girder at the center pier frames into the cross girder. The drum rolls on steel rollers that ride on a track secured to the masonry [pier]. When the bridge is opened, the dead load of the swing bridge is carried by the center bearing and the rollers balance the bridge.

   ii) The drive machinery [variable-speed, series wound, 600-volt DC, 25-horsepower electric motors] is located below the track level at the center pier. To open the bridge, the rail locks are unlocked, the [miter] rails are lifted, the [overhead electric] catenary is separated at the ends [of the bridge], the wedge locks are withdrawn, and the bridge locks at the ends are released. The drive pinion then swings the bridge to an open position. Power for the bridge is supplied from the railroad's Substation Number 4 [adjacent to the western portal of the North (Hudson) River Tunnels]. The bridge is operated from a small operator's house [built in 1974] at the center of the swing span outside the through trusses.

3) The Historic Cemeteries of Hudson County, a site eligible for listing in the National Register of Historic Places, is within the area of potential effects of the Portal Bridge Capacity Enhancement Project, but outside the boundaries of the New Jersey Register of Historic Places listed Portal Bridge.

4) Describing the Portal Bridge in 1982, the nomination noted the "deteriorated condition" of the structure and continued: "The structural steel in many members of

the trusses and floor system are corroded and the end piers have open joints. The mechanical equipment is worn and deteriorated." The nomination also noted proposed "remedial action, designed to...provide for safe uninterrupted service across the Hackensack River for a minimum of 25 years." At the time it was listed on the New Jersey Register of Historic Places, repairs made to the Portal Bridge included:

i) Repointing and pressure grouting masonry in the piers
ii) Replacing all defective rivets with high strength bolts
iii) Repairing and replacing corroded floor beams and replacing lateral bracing on the approach spans
iv) Repairing the end wedge supports of the center span
v) Replacing gussets [gusset plates] where needed (some on all spans)
vi) Replacing and reworking elements of the mechanical system such as worn gearing, shafting and bearings; replacing the friction clutch with a hydraulic cylinder for operation of the wedge locks, rail lifts and catenary separation
vii) Replacing motors and electric equipment for conversion to a 60 cycle power supply.

5) In the years since those repairs, the age and complexity of the miter rails and the mechanical components responsible for opening and closing the bridge have contributed to steadily decreasing reliability, increased maintenance expense, and reduced train speeds. The decreased reliability and two track configuration of Portal Bridge and its approaches have created a capacity constraint that contributes to train delays and prevents any further expansion of the frequency and number of the trains in the peak hours of service.

6) The Portal Bridge is owned and operated by the National Railroad Passenger Corporation (Amtrak) and carries the two railroad tracks of the Northeast Corridor Line over the Hackensack River. Because the bridge is in active use, the *Secretary of the Interior's Standards for Rehabilitation* are the appropriate standards to use in the evaluation of this undertaking.

7) NJ Transit, in conjunction with Amtrak, is proposing the Portal Bridge Capacity Enhancement Project to "enhance the capacity and improve the operation" of the Portal Bridge crossing of the Hackensack River. The project goals are to:

i) Increase capacity and improve service reliability
ii) Enhance [rail] passenger safety and security
iii) Minimize conflicts with maritime traffic
iv) Optimize existing [railroad] infrastructure and planned improvements [in railroad passenger service] while minimizing impacts to the surrounding environment.

8) The existing Portal Bridge is a critical component of both NJ Transit's and Amtrak's railroad network. This segment of the Northeast Corridor rail line is the most heavily used rail line in the United States in terms of ridership and service frequency, each

weekday nearly 300,000 passengers cross Portal Bridge between New Jersey and New York. However, the existing Portal Bridge "...poses reliability concerns, capacity constraints, and operational inflexibility. The swing span and miter rails configuration pose maintenance difficulties and the bridge's low vertical clearance results in severe conflicts with maritime uses."

9) The Federal Transit Administration, Federal Railroad Administration, United States Army Corps of Engineers, United States Coast Guard, NJ Transit, and the Port Authority of New York and New Jersey are undertaking the Access to the Region's Core (ARC) project adjacent and to the east of the Portal Bridge. The ARC project will enhance the commuter rail capacity between Frank R. Lautenberg Station at Secaucus Junction and midtown Manhattan by adding track and other infrastructure. The Portal Bridge, at the western terminus of the ARC project, cannot accommodate this increased capacity.

10) The Federal Railroad Administration and NJ Transit have completed a Final Environmental Impact Statement (FEIS) and a United States Department of Transportation Act Section 4(f) Evaluation to evaluate the potential impacts, including impacts to historic and cultural resources, of the proposed Portal Bridge Capacity Enhancement Project. The FEIS evaluated more than 30 different alternative approaches to enhancing the capacity, safety, and reliability of the Portal Bridge crossing of the Hackensack River. Four alternatives that would retain the existing bridge, eight alternatives that would modify and retain the existing bridge, and 19 alternatives that would replace the existing bridge were evaluated in depth as part of the Environmental Impact Statement.

11) After considering the structural deficiencies of the existing Portal Bridge substructure, the remaining fatigue life of the existing superstructure, the continued use of miter rail joins in a swing span, the overall reliability of the existing structure, and cost effectiveness and constructability, rehabilitation of the Portal Bridge was determined inadequate to meet the needs of the Portal Bridge Capacity Enhancement Project. Likewise, although structural rehabilitation of the existing Portal Bridge is technically feasible, the Section 4(f) evaluation determined that rehabilitation was not a prudent alternative because of the cost and life expectancy of a rehabilitation, the continued use of miter rails in a swing span, and the continued conflicts of a "low level" moveable bridge with marine traffic. The approval of the FEIS by the FRA, presented as a Record of Decision (ROD), accepted replacement of the existing Portal Bridge by two (2) bridges with a total capacity of 5 tracks as the optimal course of action. The ROD is included in the Application as Appendix H.

12) The United States Coast Guard has determined that if the bridge remained, the pivot pier would be in the center of the newly delineated navigation channel, and, therefore, constitute a hazard to navigation. As a result, it is not possible to retain the Portal Bridge in its current location.

13) In accordance with the FEIS and the requirements of the National Historic Preservation Act, a Memorandum of Agreement (MOA) has been executed for the proposed project and is included in the submitted Application as Appendix G. Mitigation measures include Historic American Engineering Record documentation of the Portal Bridge, salvage of components of the Portal Bridge, development of an interpretive exhibit in a park, greenway or public space, additional documentation interpreting the history and significance of the Portal Bridge in the form of a website to be developed and maintained by NJ Transit, and consultation with the Historic Preservation Office regarding the plans and specifications for the replacement bridges.

14) The proposed Portal Bridge Capacity Enhancement Project will result in the loss of the historic New Jersey Register listed swing bridge and its replacement with two new bridges. The project is not in conformance with the *Standards for Rehabilitation.*

NOW, THEREFORE, BE IT RESOLVED, by the New Jersey Historic Sites Council (Council) that, based upon the above findings, the Council recommends that the Commissioner approve the removal of the Portal Bridge with the following conditions:

1) NJ Transit shall be responsible for the preservation and one time relocation of the Portal Bridge [swing span] within the project area, along the Hackensack River or at another feasible location within the State of New Jersey.

2) NJ Transit shall develop a thorough feasibility study including a cost and schedule analysis for the relocation of the bridge. NJ Transit shall submit the feasibility study to the Historic Sites Council for review and approval within 180 days of project authorization.

3) If NJ Transit concludes that it is feasible to relocate the bridge, the bridge will be relocated. In that case, the project will still have a (reduced) adverse effect and the mitigation proposed in the project Section 106 Memorandum of Agreement will still be executed. If NJ Transit's study determines that it is not feasible to relocate the historic Portal Bridge, NJ Transit shall present the feasibility study to the Historic Sites Council for review and recommendation to the Department. In that case, NJ Transit shall also present suggestions for mitigation which is commensurate with the loss of the resource.

MOVED BY: Constance Greiff
SECONDED: Sophia Jones
IN FAVOR: 7
AGAINST: 0
ABSTAIN: 0

The Council's recommendations and advice are forwarded to the Commissioner of the Department of Environmental Protection. The Commissioner makes a final determination

HSCFinalResolutionPortalBridge3_DS.doc

Jon S. Corzine
Governor

Stephen Dilts
Board Chairman

Richard R. Sarles
Executive Director

NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
973-491-7000

April 2, 2009

Re: **Portal Bridge Capacity Enhancement Project, Hudson County, New Jersey**
Historic Sites Council Application for Project Authorization

To Whom it May Concern:

The National Railroad Passenger Corporation (Amtrak) and the New Jersey Transit Corporation (NJ TRANSIT) have proposed the Portal Bridge Capacity Enhancement Project to enhance the capacity and improve the operation of the Portal Bridge, a passenger rail bridge over the Hackensack River between Secaucus and Kearny, New Jersey. In coordination with the New Jersey Historic Preservation Office (SHPO), the Federal Railroad Administration (FRA) and NJ TRANSIT prepared a Final Environmental Impact Statement and Section 4(f) Evaluation for the project in October 2008 to analyze the potential environmental impacts from the proposed project. A Record of Decision was published in December 2008 by FRA.

Due to the involvement of NJ TRANSIT, an instrumentality of the State of New Jersey, the project is subject to the New Jersey Register of Historic Places Act of 1970. The project will result in a physical effect on the State Register-listed Portal Bridge, and therefore, NJ TRANSIT will need to secure Project Authorization as per the stipulations of the New Jersey Register of Historic Places Act.

As per the enclosed correspondence and agenda, NJ TRANSIT has submitted an Application for Project Authorization and the SHPO has determined that the proposed action constitutes an encroachment to the listed Portal Bridge.

This letter serves as notification to potential Interested Parties that the New Jersey Historic Sites Council has scheduled a hearing for Portal Bridge Capacity Enhancement Project for April 16, 2009.

If you have questions, please contact me at NMarton@njtransit.com or 973-491-8971.

Sincerely,

Nick Marton

Project Manager

NJ TRANSIT

cc: D. Callender, NJ TRANSIT
R. Cross, Gannett Fleming
M. Mack, Amtrak
R. Conway/M. McDonald, AKRF

Jon S. Corzine
Governor

Stephen Dilts
Board Chairman

Richard R. Sarles
Executive Director

NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
973-491-7000

June 17, 2009

Mr. Charles Scott
New Jersey Historic Preservation Office
501 East State Street
Trenton, NJ 08625-0404

Re: Portal Bridge Capacity Enhancement Project, Hudson County, New Jersey
Historic Sites Council Application for Project Authorization

Dear Charles:

We are in receipt of the Historic Sites Council's Draft Resolution (prepared after the April 17 HSC meeting) regarding authorization for the Portal Bridge Capacity Enhancement Project, which would replace the Pennsylvania, New Jersey, and New York Railroad Company Portal Bridge over the Hackensack River in Hudson County, New Jersey.

In accordance with N.J.A.C. 7:4-7.2 (e) 5, I am writing on behalf of New Jersey Transit to accept the conditions as listed in the Historic Sites Council (HSC) resolution for the project. New Jersey Transit will work with Historic Preservation Office (HPO) staff to meet all requirements of the project authorization.

Thank you in advance for your continued cooperation. Please feel free to contact me with questions or comments at NMarton@njtransit.com or 973-491-8971.

Sincerely,

Nicholas Marton
Project Director
Portal Bridge Capacity Enhancement Project

Cc: J. Mesure, NJT
B. Suriano, NJT
B. Pattay, NJT
T. Radwin, NJT
C. Ingoglia, NJT
M. Mack, Amtrak
R. Cross, Portal Partners

Jon S. Corzine
Governor

Stephen Dilts
Board Chairman

Richard R. Sarles
Executive Director

NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
973-491-7000

July 28, 2009

Mr. Thomas McCann
Hudson County Division of Parks
Brennan Court House Building
583 Newark Avenue
Jersey City, NJ 07306

Re: Portal Bridge Capacity Enhancement Project, Hudson County, New Jersey
Portal Bridge Relocation Feasibility Study

Dear Mr. McCann:

The National Railroad Passenger Corporation (Amtrak) and the New Jersey Transit Corporation (NJ TRANSIT) have proposed the Portal Bridge Capacity Enhancement Project to enhance the capacity and improve the operation of the Portal Bridge, a passenger rail bridge over the Hackensack River between Secaucus and Kearny, New Jersey. This project would require the removal of the existing National Register of Historic Places (NR)-eligible, State Register of Historic Places (SR)-listed Portal Bridge and its replacement with two new bridges. In coordination with the New Jersey Historic Preservation Office (SHPO), the Federal Railroad Administration (FRA), Amtrak, and NJ TRANSIT prepared a Final Environmental Impact Statement and Section 4(f) Evaluation for the project in October 2008 to analyze the potential environmental impacts of the project. A Record of Decision was published in December 2008 by FRA.

Due to the involvement of NJ TRANSIT, an instrumentality of the State of New Jersey, the project is subject to the New Jersey Register of Historic Places Act of 1970. Because the project will result in a physical effect on the SR-listed Portal Bridge, NJ TRANSIT was required to submit an Application for Project Authorization to the SHPO. In April 2009, SHPO determined that the proposed action constitutes an encroachment on the SR-listed Portal Bridge and approved the Application for Project Authorization with several conditions. One of these conditions requires NJ TRANSIT to conduct a Feasibility Study for the relocation of the Portal Bridge swing span.

NJ TRANSIT is currently analyzing the feasibility of relocating the Portal Bridge swing span for preservation in another location. Based on the preliminary results of the Feasibility Study, the only potentially feasible alternative would be to relocate the swing span to public parkland immediately adjacent to the Hackensack River. Therefore, this letter serves to notify Hudson County's Division of Parks of the availability of the Portal Bridge swing span for relocation to and preservation within a Hudson County Park.

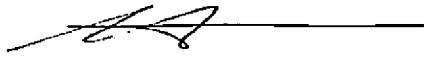
The Portal Bridge is a double-track seven-span bridge with six deck girder spans and a center-bearing Warren through-truss swing-span. The Bessemer-steel superstructure is raised 23 feet

above mean-high-water on rock-faced piers. The Portal Bridge was manufactured and designed by the Pennsylvania Steel Company in 1907 as part of original construction of the Pennsylvania Railroad system. The Portal Bridge swing span is approximately 300 feet long, 30 feet wide and 46.5 feet high, and weighs a total of 750 tons.

If interested, NJ Transit could deliver the intact bridge on barge to one of the county's park along the Hackensack River, Newark Bay or possibly the Passaic River.

Thank you for your considering the use of the Portal Bridge swing span in a Hudson County park. Please contact me with any questions or comments at NMarton@njtransit.com or 973-491-8971.

Sincerely,



Nicholas Marton
Project Director
Portal Bridge Capacity Enhancement Project

Cc: J. Mesure, NJT
B. Suriano, NJT
B. Pattay, NJT
T. Radwin, NJT
C. Ingoglia, NJT
M. Mack, Amtrak
R. Cross, Portal Partners

Jon S. Corzine
Governor

Stephen Dilts
Board Chairman

Richard R. Sarles
Executive Director

NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
973-491-7000

September 18, 2009

Mr. Thomas McCann
Hudson County Division of Parks
Brennan Court House Building
583 Newark Avenue
Jersey City, NJ 07306

Re: Portal Bridge Capacity Enhancement Project, Hudson County, New Jersey
Portal Bridge Relocation Feasibility Study

Dear Mr. McCann:

This letter follows earlier correspondence dated July 28, 2009, regarding the Portal Bridge Capacity Enhancement Project. As you know, the National Railroad Passenger Corporation (Amtrak) and the New Jersey Transit Corporation (NJ TRANSIT) have proposed enhance the capacity and improve the operation of the Portal Bridge, a passenger rail bridge over the Hackensack River between Secaucus and Kearny, New Jersey. The Portal Bridge, which is listed on the State Register of Historic Places (SR) and eligible for listing on the National Register of Historic Places (NR), will be replaced with two new bridges. As described in our previous letter, the project is subject to the New Jersey Register of Historic Places Act of 1970. As part of this compliance process and at the request of the New Jersey Historic Preservation Office (HPO), NJ TRANSIT is conducting a Feasibility Study for the relocation of the Portal Bridge swing span. Our previous letter served to notify Hudson County's Division of Parks of the availability of the Portal Bridge swing span for relocation to and preservation within a Hudson County Park.

To date, NJ TRANSIT has received no reply from Hudson County's Division of Parks. Therefore, it is our understanding that the Division of Parks is not interested in accepting the Portal Bridge swing span for use in a Hudson County Park.

Thank you for your consideration. Please contact me with any questions or comments at NMarton@njtransit.com or 973-491-8971.

Sincerely,

Nicholas Marton
Project Director
Portal Bridge Capacity Enhancement Project

Cc: J. Mesure, B. Suriano, B. Pattay, R. Radwin, C. Ingoglia, NJT
M. Mack, Amtrak
R. Cross, Portal Partners

Jon S. Corzine
Governor

Stephen Dilts
Board Chairman

Richard R. Sarles
Executive Director

NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
973-491-7000

October 19, 2009

Mr. Thomas McCann
Director, Division of Parks
Brennan Court House Building,
583 Newark Avenue
Jersey City, NJ 07306

Re: Portal Bridge Capacity Enhancement Project (PBCE)
Potential Portal Bridge Swing Span Reuse

Dear Mr. McCann,

Thank you for taking time to speak with me on October 8, 2009 regarding the potential reuse of the existing Portal Bridge swing span. As we discussed, the bridge is currently in use, serving as the Amtrak and NJ TRANSIT Northeast Corridor crossing of the Hackensack River. The bridge, owned by Amtrak, will be taken out of service and replaced by two fixed bridges to the North and South of the existing bridge.. Furthermore, the north replacement bridge must be in service prior to the existing span's removal in order to accommodate its' rail traffic. Consequently, removal and/or demolition of the original swing span structure or its' components, must proceed or be barged to the south of the new fixed span North Bridge before the south replacement bridge is erected.

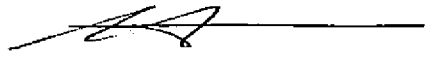
With the aforementioned in mind, we also discussed that the only possible location for the potential reuse of the removed swing span would be at the opening of the Penhorn Creek, south of the span's current location. Additionally, movement to this location appears problematic due to the dimensions and sheer mass of the existing span. Specifically, the center Span is 300.47 ft long by 30 ft wide by 48 ft tall. There is an additional 16 feet of steel substructure below the superstructure sitting on the concrete center foundation. The present weight of the center swing-span is 753 tons.

A review of the suggested location also indicates that relocation of the span to the Penhorn would potentially impact the navigability of the canal channel leading to the nearby PSE&G generating station along this reach of the Hackensack River. Studies of the readily available aerial photographs of this area demonstrate that the engineered canal section servicing the facility is maintained and ready for use. Therefore, it is highly unlikely that both the United States Coast Guard and the Army Corps of Engineers would positively consider this impediment to navigation.

While removal of the existing span was discussed at length in the December 2008 approved Final Environmental Impact Statement, NJ TRANSIT and Amtrak have agreed to investigate potential reuse of the span. Currently and as we discussed earlier this month, the relocation and reuse of this structure does not seem practical given its' size, weight and current location. Nevertheless and as we also agreed, we hope to afford other Hudson County agencies an opportunity to comment upon the efficacy of the swing span's reuse.

I look forward to your reply at your earliest convenience. Thank you for your continued assistance in this matter. Please do not hesitate to contact me at (973)491-8971 should you have any question relative to the above.

Sincerely,



Nicholas L. Marton
Project Director, PBCE

Cc: J. Mesure, NJT
J. Leon, NJT
B. Suriano, NJT
B. Pattay, NJT
K. Donovan, NJT
R. Cross, GF

Jon S. Corzine
Governor

Stephen Dilts
Board Chairman

Richard R. Sarles
Executive Director

NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
973-491-7000

October 21, 2009

Mr. Daniel Saunders
Acting Administrator and Deputy State Historic Preservation Officer
New Jersey Historic Preservation Office
501 East State Street
Trenton, NJ 08625-0404

cc. Mr. Charles Scott

Re: Portal Bridge Capacity Enhancement Project, Hudson County, New Jersey
Historic Sites Council Application for Project Authorization

Dear Daniel:

On April 24, 2009, the New Jersey Historic Sites Council (NJHSC) issued a Letter of Resolution regarding authorization for the Portal Bridge Capacity Enhancement Project, which would replace the Pennsylvania, New Jersey, and New York Railroad Company Portal Bridge over the Hackensack River in Hudson County, New Jersey. The Letter of Resolution authorized the request to remove the Portal Bridge with conditions, requesting that NJ TRANSIT "develop a thorough feasibility study including a cost and schedule analysis for the relocation of the [swing span of the] bridge."

In accordance with this request, NJ TRANSIT has prepared a Feasibility Study, which analyzes alternatives for the relocation and preservation of the Portal Bridge swing span and evaluates the feasibility of these alternatives in terms of constructability, cost, public safety, and public accessibility. The Feasibility Study is enclosed for review and comment. New Jersey Transit will work with Historic Preservation Office (HPO) staff to meet all requirements of the project authorization.

Thank you in advance for your continued cooperation. Please feel free to contact me with questions or comments at NMarton@njtransit.com or 973-491-8971.

Sincerely,

Nicholas Marton
Project Director
Portal Bridge Capacity Enhancement Project

Cc: J. Mesure, B. Suriano, B. Pattay, T. Radwin, C. Ingoglia, NJT
M. Mack, Amtrak
R. Cross, Portal Partners